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Telephony

The Journal of the Telephone Industry

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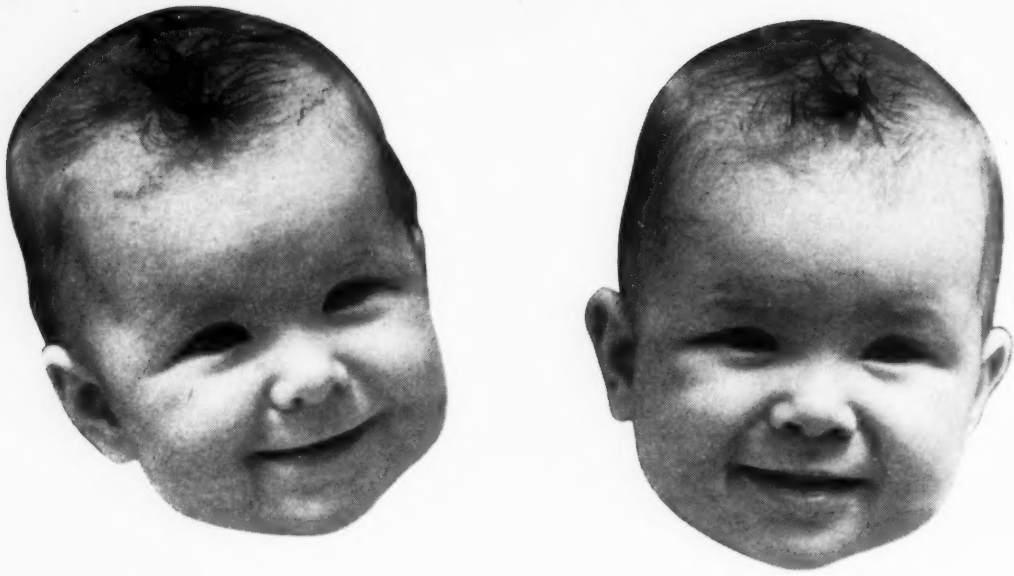

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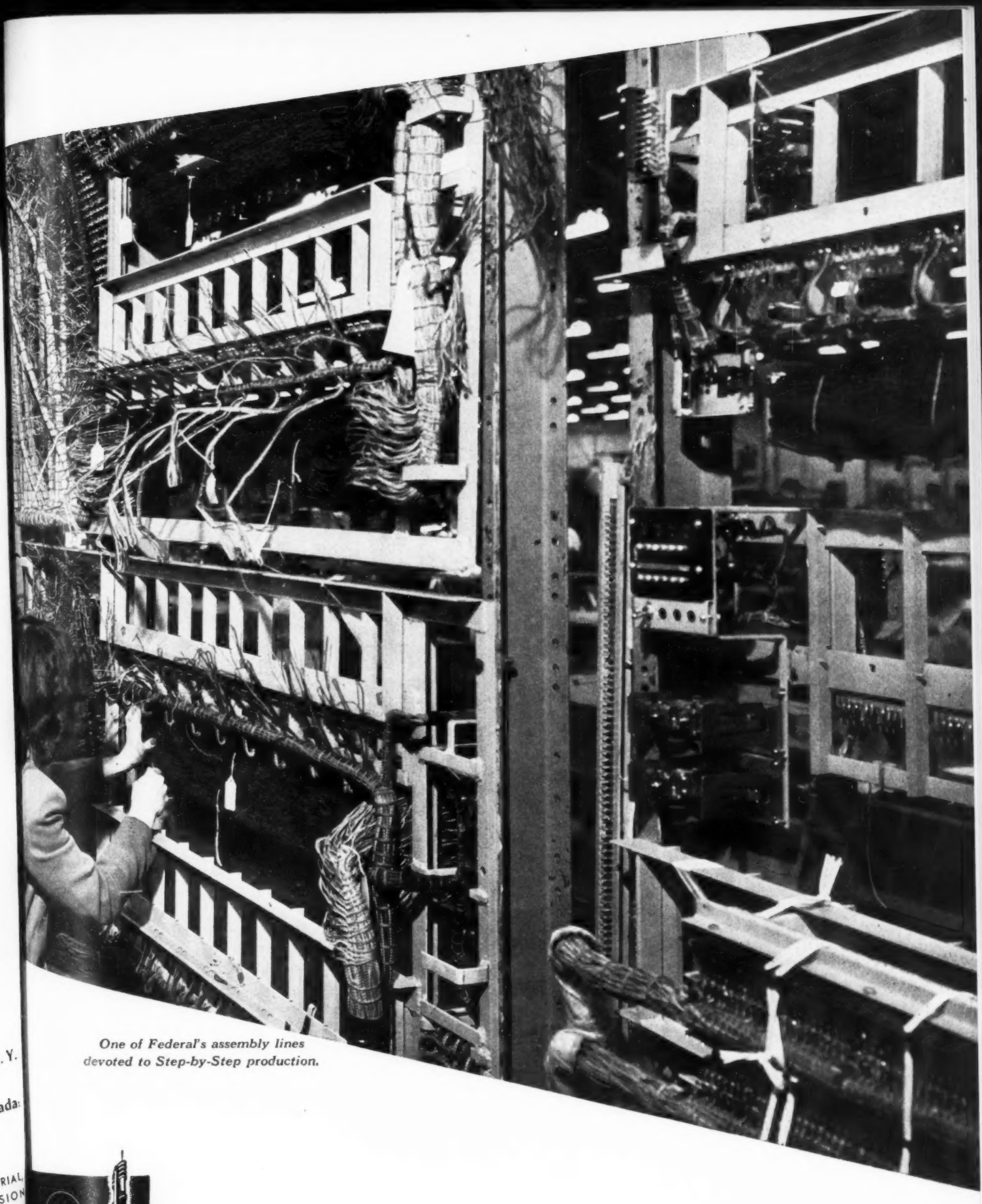

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FLASHES AND PLUGS

THEY CALL IT PLAIN TALK. Telephone users who have a dictionary at hand may profit from this advice:

"In promulgating your esoteric cogitations, or articulating your superficial sentimentalities and amicable, philosophical or psychological observations, beware of platitudinous ponderosity. Let your conversational communications possess a clarified conciseness, a compact comprehensibleness, coalescent consistency, and a concatenated cogency. Eschew all conglomerations of flatulent garrulity, jejune babblement and asinine affectations. Let your extemporaneous descantings and unpremeditated expatiations have intelligibility and veracious vivacity without rodomontade or thrasonical bombast. Sedulously avoid all polysyllabic profundity, pompous prolixity, psittaceous vacuity, ventriloquial verbosity and vaniloquent vapidity. Shun double entendres, prurient jocosity and pestiferous profanity, obscurant or apparent.

In other words, talk plainly, briefly, naturally, sensibly, on or off the telephone. Don't put on airs; say what you mean; mean what you say. And don't use big words!"

• • •

MEANS TO AN END. Emilion Checa, manager of an undershirt factory in Mexico City, bought a quarter-page in the newspapers recently to inform the manager of Telefonos de Mexico:

"Thirty-five days ago we reported our telephone out of order. Won't you please have something done?"

The telephone works now.

• • •

WRONG PLACE, RIGHT TIME. Because an alarm by telephone gave firemen in Pascoag, R. I., the wrong address, they found themselves on one side of Echo Lake while flames were sweeping a house on the opposite shore.

• • •

STILL LIFE. Night lights shed a pale illumination on the cold slabs of an Indiana mortuary. A drowsy watchman stretched out on a slab and drew the sheet up over him. Another employe returned to make a telephone call. The conversation awakened the man on the slab. He sat up and yawned. The telephoner screamed, began running at top speed and didn't stop until he had reached the city limits. At that point he noticed two things. He was out of breath and he still had the telephone receiver in his hand.

• • •

EVIL AFOOT. An excited Hagerstown, Md., woman telephoned the police station to say she had seen a man stop his car near the city limits, dig a hole beside the road, bury a package and drive off.

Two patrolmen grabbed shovels and sped to the spot. They dug and found the package. Garbage.

• • •

IT PAYS TO CHECK. Harry C. White, police lieutenant in Portland, Me., answered the telephone at headquarters. A man reported finding a dog in his yard. Since the stray pet and his children had developed a mutual fondness for one another, he asked permission to keep it. Lt. White was agreeably disposed until he checked the license number. "License 51659?" he queried, amazed. "No, you can't keep *that* dog. He's mine."

TELEPHONY

The Journal of the Telephone Industry

September 11, 1948

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USITA 1948 CONVENTION

To Be a Humdinger

By CLYDE S. BAILEY
Executive Vice President
United States Independent Telephone Association

MORE than 2,000 people are expected to attend the 51st annual convention of the United States Independent Telephone Association at the Stevens Hotel in Chicago on Oct. 11, 12 and 13.

They will be on hand at this annual conclave to listen to prominent speakers expound upon industry problems, to witness one of the largest exhibits of new telephone equipment and supplies ever displayed, to discuss equipment and supply problems with the manufacturers, and to mingle with each other and renew old friendships.

The convention this year will run from 10 a.m. on Monday, Oct. 11, until noon on Wednesday, Oct. 13—two and one-half days instead of three as heretofore. Since the afternoon session on the last day will be omitted, those so desiring can catch afternoon trains without staying over an extra night, or devote that afternoon to shopping or sightseeing.

From the beginning to the end, the 1948 convention will be a humdinger. It will be chock full of interesting events, things and people. It is the national "must" meeting of the year.

Monday, Oct. 11, will be devoted to the technical conferences—Plant, Traffic, Commercial and Accounting—two running concurrently beginning at 10 a.m. and two beginning at 2 p.m. The chairmen of these technical groups have arranged programs that will have both a technical and popular appeal.

The technical group sessions partake at once of a combination of a seminar and a quick postgraduate course in the latest developments affecting those indispensable, functionalized parts of every telephone operation.

The opening general session will get under way on Tuesday morning, Oct. 12, when President Oscar Burton raps his trusty gavel and delivers the annual presidential address. The topic of this important address will be "The Responsibility of Management."

One of the other principal addresses to be delivered at a general session will be that of the president of the United States Chamber of Commerce, Earl O. Shreve, whose topic will be "The Presentation of Private Enterprise." This industrial and economic statesman, the head of the most important organization of business men in the United States, will have a message of the most profound interest.

Because of the changing scenery on the international front and the important part which telephone communication plays in any period of emergency, it is appropriate that there should be an address on "The Role of Communications in the Civil Defense Program." This will be delivered by Herbert J. Schroll, who has been serving as communications advisor to the Director of Civil Defense Planning since the inception of that office last March. Mr. Schroll is also assistant vice president of the New York Bell Telephone Co.

C. S. BAILEY

How to win friends and influence people is ever an intriguing endeavor, one to which every successful man in any business must apply himself. Friendly relations with one's fellow man is the key to a satisfied set of subscribers. Hence, telephone people are constantly on the lookout for new methods of approach to the human equation and new sources of inspiration to keep the body politic satisfied. We consider it especially fortunate that we have been able to prevail upon an expert in the field of public relations to address us.

He is retained by one of the world's largest corporations, General Motors, for advice on personnel training and salesmanship and also by *Reader's Digest*, a publication which is desirous of doing its part in spreading across the nation an inspirational message on the vital subject of human relations in industry. He is the famed Dr. Kenneth McFarland of Topeka, Kan.

Various facets of the miracle of radio as an adjunct to the telephone in making communication service more universally available, will be covered by addresses by outstanding authorities on this subject. There will also be a practical demonstration of mobile radiotelephone service by the Illinois Bell Telephone Co.

"You are Moving Closer to Mobile Radio-Telephone Service" is the title of one address to be made in this regard by F. E. Morris, who has been serving as chairman of the national association's Committee on Radio Service.

"Demands for Service and for Regulatory Short Cuts" will be the subject of an address by a member of one of the most important regulatory commissions in the country, Chairman Harry

M. Miller of Ohio. The suggestions that may be looked for in this feature of the program will be of significance to every telephone company facing the prospect of a commission proceeding looking toward necessary rate adjustments.

"Service and Financial Problems Confronting the Industry" is the subject of another address which will be delivered by one of the most prominent and experienced public utility regulators in the nation, the Hon. H. Lester Hooker of Virginia.

There also will be reports from association committees which will discuss the specialized subjects entrusted to them for survey, examination and study. One of these will tell us "What Is Ahead on the Labor Relations Front," written by the best informed man on labor relations matters in the Independent branch of the telephone industry, J. H. Agee. All committees have been urged to exert particular effort this year to prepare reports of lasting value to the membership of the association.

To return to the technical group conferences, it will be of interest to every plant man to record here that among the subjects to be discussed at the Plant Conference are "Preventive Maintenance," "Carrier Systems" and "Radio Telephony."

At the Plant Conference there also will be a practical demonstration of that new, epoch-making discovery called the Transistor, a small but highly important device that seems destined to affect most profoundly the future of the science of electronics. This demonstration will be given by a representative of the Bell Telephone Laboratories.

The Traffic Conference is to have a challenging program of important events. A glance at the titles of the subjects will arouse the interest of every traffic man and woman: "What Traffic Management Produces"; "The Chief Operator Is the Heart of Our Business — and Why"; "How Traffic Can Add to 'The Bottom Line'"; "Traffic Department's Part in Large Exchange Conversions," and "Traffic Handling Standards," a round table discussion.

The Accounting Conference, not to be outdone, is likewise formulating a program of significant topics for consideration. A feature address will tell "What Management Expects from the Accounting Department." "Preparation of Accounting Exhibits for Rate Cases" is the title of another most timely topic. "The Use of Modern Machines in Accounting" is still another subject of current interest to every telephone company that desires to introduce the greatest efficiency in its accounting department.

The Commercial Committee is now engaged in developing an outstanding program for its conference. Complete information will be available within a short time. There will be ample material to repay every commercial man and woman who attends this conference.

The annual business meeting of the Independent Telephone Pioneer Association will be held at 3:30 p.m. on Tuesday, Oct. 12. This fine organization is planning a program of business and entertainment that is certain to merit the praise of all who attend.

The banquet this year will be held on the evening of Oct. 12, and will be under the auspices of the USITA instead of the Independent Pioneers, as heretofore. The Banquet Committee, actively functioning for some time, assures us that the viands to be served will tickle palates with a saccharine spray and that professional entertainment will be up to standard.

Come one, come all!

The convention is going to be constructive, instructive, educational, inspiring, entertaining, relaxing.

ALL INDEPENDENTS ARE INVITED

In a letter to the editor from USITA Executive Vice President Bailey we have been asked to make the following statement:

"All Independent telephone companies are cordially invited to send representatives to the USITA's 1948 convention, regardless of whether membership in the association is maintained or not. Membership is not a prerequisite to attendance. We are specially interested in having the smaller companies represented. So far as any operating company is concerned, it is entitled to register and participate in the convention program regardless of membership affiliation.

"Manufacturers and suppliers, on the other hand, must be members of the association before they may be permitted to register and attend."

Round-the-World Beat

An Albany, N. Y., newspaper reporter recently covered a story in New Zealand just the way he might cover one in Albany—by telephone. In a call to Auckland, via overseas radiotelephone, he talked with an Episcopal bishop who with his wife had narrowly missed death when a flying boat on which they were passengers ran into a heavy storm.

Follow the Leader

"Calling all cabs" was the battle cry of a Columbus, Ohio, taxi driver over his mobile telephone recently. He'd mentioned a stolen cab report to what he thought was a fellow driver, and the other man promptly crashed a red light and sped away.

Realizing that he'd been talking to the thief, the real cabbie followed, sounding the warning over his telephone. Twenty other cabs heard him and joined the chase, until the squadron of telephone-directed taxis hemmed in the culprit on a downtown street. He was captured just as four carloads of police screeched to a halt at the scene and took over.

DETECTION

"Next to the F. B. I.," a Cleveland customer wrote the Ohio Bell Telephone Co. recently, "I'd hate to have a telephone operator try to find me if I didn't want to be found. It would be a lost cause."

He told about placing a call to a friend who once lived near Medina but had since moved into town. The customer knew nothing further about how to find him except that the man sang in a barbershop quartet. This information was passed along to the Medina operator and the call went through. The pleased customer ended his letter by saying that operators were "tops in his book."

IN THE NATION'S CAPITAL

BY
FRANCIS X. WELCH
WASHINGTON
EDITOR

Officials of telephone and telegraph industries meet with National Security and Resources Board to discuss national defense plan for communications in case of emergency. . . . Loose accounting of federal government bureaus deplored.

THE National Security and Resources Board this week was the scene of a strange reunion of telephone and telegraph officials. It was, in large part, a reunion of officials who had represented or performed liaison duties for their respective industries in connection with the work of the old War Production Board, particularly its communications division.

And the reunion was strange because it came about during a period of technical peace when there is no longer any War Production Board in existence. Nevertheless, it was a grim reminder of possible things to come. In short, it was the third of such a series of utility industry committee meetings with the NSRB. First, was the electric power division and second, was the gas industries, both of which are now well organized and have their reports on national defense problems in the process of completion. The telephone and telegraph group met on Sept. 1 with Leighton H. Peebles, now communications chief of the NSRB and formerly chief of the communications division of the old WPB Office of War Utilities.

The so-called "task committee" invited to Washington for this session included two Independent telephone industry officials: R. A. Lumpkin, president of the Illinois Consolidated Telephone Co., Mattoon, Ill., and R. A. Gantt, former vice president of the International Telephone & Telegraph Corp. The Bell System was represented by J. G. Rees, assistant chief engineer of the American Telephone & Telegraph Co. One of the first duties of the committee will be to check over wartime WPB telephone and telegraph limitation orders to determine what use they could be by way of background in the drafting of any new emergency orders which may be needed in case of a future sudden war threat.

• • •

Something new under the sun by way of telephone regulation was a bill recently passed by the New Jersey Assembly making it a penal violation to use the telephone for solicitation of contributions for such purposes as yearbook advertising, programs, and many other collecting schemes. The bill, which passed the assembly by the narrow margin of 31-18 and which still may die in the senate, is the first statutory attempt (in the recollection of this writer) to curb telephone solicitation of money for any purpose. True, the New Jersey bill is mild enough in that it (1) covers only one form of solicitation and, (2) applies only to out-of-state solicitors, thereby exempting legitimate New Jersey publications.

The author of the bill, Assemblyman Herrmann of Essex, said it was designed to "drive out of New Jersey fly-by-night high pressure telephone solicitors." Herrmann told the house that "fakers from New York and Philadelphia come into the state at frequent intervals and harass the business community for contributions to programs, yearbooks and other publications." He added: "They use anybody's name to accomplish their aim."

Herrmann's bill, which goes to the senate, provides strict regulation over out-of-state operators, but exempts solicitors for bona fide publications printed in New Jersey for at least two years and for established charitable and religious organizations. Out-of-state solicitors would be required to obtain a $10 permit from the state labor department, identify persons or groups promoting solicitations, specify the places and hours in which they would solicit, undergo photographing and fingerprinting and post a $2,000 bond. All such solicitors would be required to carry an identification card.

• • •

Those inside the Federal Communications Commission are begining to refer to the so-called "Scott decision," (which deals with broadcasting atheistic programs on the radio) as the "dread Scott decision." Of course, it has nothing to do with slavery or the war between the states. But it has brought about a certain amount of dreadful reaction just the same—what with the Select Committee of the House, headed by Representative Harness (R., Ind.), digging around and putting the FCC in the unwelcome position of protecting, if not encouraging, atheists.

Harold Scott (by way of refreshing the reader's memory) is a San Francisco atheist who became fed up with all the religious programs he heard on the radio. He tried to get three different West Coast stations to allow him time on the air to answer these religious programs from the atheist's point of view. All three West Coast stations said "nothing doing." So Mr. Scott turned right around and demanded that the FCC throw these stations off the air, by revoking their licenses for failure to allow "freedom of speech."

It will be recalled that the FCC refused to take any such drastic action. But it did deliver itself of a rather long and wordy decision to the effect that atheists had as much right on the air as anybody else. The opinion went on to suggest that if radio broadcasters wanted to be sure of doing the fair and square thing, they would try to work out some arrange-

ment, however modest, whereby the atheists could have their say.

This advice applied, of course, only to broadcasting stations which carry religious programs. But what radio station doesn't these days? Needless to say, this decision burned up some of the good religious folks. More recently it caused Representative Harness and his committee to decide to call the FCC on the carpet. The Harness group wanted to know just why the FCC had developed such a tender regard for the atheistic brethren.

The real trouble evidently grew out of the confusion as to just what the Scott decision was supposed to decide. It seems some radio broadcasters figured out that, if they wanted to keep their licenses intact and secure, they would either have to start allowing programs by atheists or else cut out religious programs all together. The consensus seems to be that atheist-sponsored programs would be more unpopular than religious programs are popular—in some communities at least. So, some of the station operators apparently began to clamp down on the religious broadcasts in self-defense.

At any rate, Representative Harness got that impression and began his investigation. So far, the inquiry has shown no taint of irreligion on the part of the FCC. But it does seem to show that FCC members, or whoever writes their opinions for them, talk too much. There was neither need nor wisdom in the long, wordy, ambiguous opinion in the Scott decision. This opinion has befogged the atmosphere and bewildered broadcasting fraternities.

Don Petty, veteran general counsel of the National Association of Broadcasters, admitted that he did not know what the decision means. But he added that "I'm wondering if the commission just doesn't make work for itself with these philosophical ramblings."

And lest it might be inferred from this that mere lawyers cannot be expected to understand much about theological matters, the committee next heard Dr. Robert L. Calhoun, professor of religion at the Yale University Divinity School, who said: "I am afraid I am compelled to say it is a quite badly constructed opinion. I regret to add that the commission's definition of atheism is pathetically incompetent. In fact, I should call it a tissue of naive and inaccurate contradictory information."

Another witness, Charles Smith, president of the Association for the Advancement of Atheism, irritated and surprised the committee with the announcement that there are 50,000,000 atheists in the United States. He demanded more consideration for them on the radio and elsewhere. Chairman Harness squirmed and glared. It's a safe bet, Mr. Smith will get small comfort from *him*.

It all adds up to one plain conclusion —the FCC talks too much. Apparently the commission could have saved everybody, including itself, a lot of trouble, if it had simply told Mr. Scott that it would not consider revoking any radio license for failure to air the opinion of freethinkers, and let it go at that.

• • •

During the recent summer weeks, your correspondent has had the doubtful pleasure of reviewing a number of annual reports and statistical documents from federal agencies. It was a necessary annual editorial chore rather than a labor of love, and generally postponed until the hot weather season of relative Washington inactivity. One strong impression gained from this experience is that if private business concerns were to keep their books like the government bureaus keep theirs, such company officials would be put out of business, if not tossed into the clink.

There are a number of federal regulatory agencies which make it their job to see that private enterprise lives in a goldfish bowl of exact and crystal-clear accounting. The SEC, the ICC, the FCC, and the FPC, just to name several. In addition, there is the Federal Reserve, and various other federal and state examining and fiscal agencies set up to protect the public from irregularity, in any shape or form, by insurance and banking companies. The Federal Trade Commission polices the entire field of general corporate business practices.

So what? Astonishing as it may seem, our federal government, which takes and spends not less than a fourth of the national income and which is twice as large as the first 50 of the greatest corporations, fails miserably to measure up to the standards of accounting and "disclosure" the government requires of private companies.

Criticism along this line was recently made by none other than T. Coleman Andrews of Richmond, former director of the United States general accounting office. Mr. Andrews stated:

"We shipped billions of dollars of lend-lease goods abroad before, during and after World War II. Some of it, at least, if not much of it, probably never will be conclusively accounted for. Whole convoys of it arrived in one theater with nothing to indicate its value and, therefore, with no basis for billing it to the recipient countries.

"The cost of some of these shipments had not been ascertained as late as a year ago, four years after they were made.

"Then there is the case of the Reconstruction Finance Corp., which put billions into war plants that it could not completely account for. Some of these plants were disposed of as war surplus without a conclusive accounting for the machinery and equipment that was put into them.

"On July 2, 1947, it was announced that the fiscal year ended June 30, 1947, had been closed with a surplus of about $750,000,000. In arriving at this result only those expenditures represented by checks paid—notice that it was checks paid, not checks issued — were taken into account; billions of dollars of expenditures of the armed forces were not taken into account at all; and no adjustments were made for other unpaid bills at the beginning and end of the year.

"Hence, the formula by which the reported surplus was arrived at was clearly not all-inclusive. The result, therefore, most assuredly was not conclusive.

"Such is the degree of reliability, or rather unreliability, that attaches to one of the most important of the government's annual financial reports to the people."

It is an incredible thing that at the national level, the government, which spends and consumes so much of the fruits of our people's labor, never has recognized its obligations to give a public account of the money it takes from the people. Certainly, this obligation would seem at least as important as the obligation which the government has imposed on private business, particularly utility companies, to do the same. Another strange angle is that the federal government has no chief accounting officer, with full powers and responsibility of a chief accounting officer. Such powers would seem to include authority to see that a proper and accurate accounting system was established for every government activity, and that qualified persons were employed to handle the same.

Fortunately, preliminary steps were taken in both the 79th and 80th Congresses to correct this situation. A commission on reorganization of the executive branch of the government has been established.

A hand-picked group of certified public accountants, drafted by this commission and working closely with top technicians of the general accounting office, the Treasury Department, and the Bureau of the Budget, will make recommendations that will give the 81st Congress an opportunity to raise the standards of the government's accounting and financial reporting to the level that is customary in private enterprise.

THE PLANT MAN'S NOTE BOOK

BY
RAY BLAIN
TECHNICAL
EDITOR

IT IS surprising to note the lack of excitement and confusion that accompanies the conversion from manual to dial service at the present time. Noteworthy, also, is the absence of trouble which was formerly associated with any major cut-over.

Both equipment and work methods have been improved to such an extent that former major undertakings have been reduced to simple routine tasks.

• • •

It has been said: "Wise men plead causes, but fools decide them."

• • •

There has recently been developed an inexpensive booster amplifier for use with telephone intercommunication and sound systems. This booster amplifier provides increased paging volume on systems designed to call or page all stations simultaneously. When used with an existing sound or intercommunication system, audibility of staff stations and reproducers located in large and noisy rooms, is substantially increased. When coupled with a standard reply station, this booster solves the problem of providing audible two-way intercommunication in very noisy locations, such as machine shops, press rooms, factory areas, etc.

• • •

During the late war, throat and lip microphones were developed and used extensively by pilots and other members of combat crews in planes of all types. It now appears that these microphones did not prove entirely satisfactory and certainly they were never comfortable to the wearer.

The new headset is somewhat similar to the recently developed lightweight telephone operator's headset. The transmitter is mounted on a boom attached to the earphone which places it directly before the lips of the wearer. This boom is on a pivot and the transmitter may be moved up or down away from the wearer's mouth when not in use.

It is claimed that this new microphone is so directional that it does not pick up the extraneous noises of the plane.

• • •

It is common practice on dial telephone systems for the bells at stations to ring at regularly fixed intervals. This is usually one or more rings per each revolution of the cam on the ringing generator. Such an arrangement, although apparently satisfactory, could have certain objections to some customers. The ringing becomes rather monotonous if a call is not answered promptly. Moreover, if a call is answered promptly, a second ring usually occurs just as the handset is lifted.

Some of the recently installed dial systems have a somewhat different arrangement which may be considered a slight improvement over the old method. This consists of two shorter rings with a slight silent period between them. The silent period between the ringing interval is longer.

• • •

We have just received a letter from S. M. Johnson, an old friend of the writer and well known in the Independent telephone industry. Mr. Johnson is presently on duty as a civilian telephone engineer with the U. S. Army of Occupation in Tokyo, Japan. His letter states in part as follows:

"We are having considerable difficulty convincing the Japanese that it is a waste of critical materials to install massive power equipment — and two, and sometimes four, sets of batteries for dial installations. It appears that their attendant's cabinets and toll switchboards are designed to operate on 24 volts, while the dial systems either operate on 48 volts (Strowger-type) or 60 volts (Siernens-Halske type). It is standard practice to install two sets of each type of battery and use the cycle charge method instead of the floating charge method."

• • •

The telecast of the two major political conventions in Philadelphia proved a real step forward in this medium of communication. The 18 television stations located in New York, Philadelphia, Baltimore, Washington, Richmond, Newark and Boston were connected by coaxial cable and radio relay systems.

It is estimated that the participating audience exceeded 10,000,000 persons.

The writer had the pleasure of viewing some of the televised convention sessions and considered them to be outstanding.

• • •

Back in the early days of telephony, five years were considered a reasonable length of time to train a cable splicer. Now, it is claimed that five or six months is ample time to train a splicer so that he can take a kit of tools and go out and do almost any kind of cable work.

With all due respect to modern training methods and improved materials and tools, we doubt seriously that a qualified cableman can be turned out in this relatively short length of time. While he can probably take a kit of tools and do a fair job of cable splicing, we do feel that he must be supervised rather closely for a much longer time or until he has acquired the necessary practical experience.

We heard recently of one of these six-months' trained cable splicers who was sent out with implicit instructions and carefully prepared cut sheets to make a cable throw which was to cut some additional trunks into an outlying exchange. The new splicer made the throw and wiped up the joint, but he cut all trunks out of the exchange instead of giving them additional lines. The exchange was isolated for several hours until the cable throw was straightened out.

• • •

A synthetic mica has recently been produced for the first time with the desired characteristics of natural mica. This synthetic material is being produced on a pilot-plant scale under a coordinated research program sponsored by the Office of Naval Research, the Army Signal Corps and the Navy Bureau of Ships.

Production of synthetic mica on a commercial scale will make the United States independent of foreign sources for the strategic mineral that is widely used in the manufacture of communication and electrical equipment.

Known as fluorine-phlogopite mica, the synthetic form now being produced has the desirable characteristics of natural mica, including perfect cleavage into thin sheets, good electrical and mechanical properties, and chemical stability. It is expected to replace the muscovite and phlogopite forms of natural mica, silicate minerals which the United States has imported in large quantities for use as insulation in electrical machinery and as a dielectric in electronic circuits.

PLANT MAN'S QUIZ

Q. What precautions may be taken in order to prevent moisture from seeping into underground conduit runs?

A. Fiber or cement-asbestos conduit, which is equipped with couplings, is accurately machined and if connected carefully is practically moisture-proof. Compound may be used when desired on these connections which improves their moisture resisting qualities considerably. Condensation in conduit, however, often causes a slight collection of moisture.

Ordinarily, water seepage into conduits or moisture from condensation is not serious if the run is graded properly so that the conduit drains into manholes. Manholes, in turn, should be equipped with a sump or drained into the sanitary sewer.

• • •

Q. We have experienced considerable difficulty in connecting ground wires to driven ground rods. If the rods are purchased with short sections of ground wire attached, it is frequently broken off during the driving operation. We find it an extremely difficult task to solder ground wires to rods after they have been driven. What do you recommend to overcome this difficulty?

A. We suggest that you purchase clamps which are provided specially for use in attaching ground wires to rods in the field. These clamps are designed in such a manner that a pressure bar aligns the wire with the rod and distributes the pressure exerted by a set screw over a greater length of the wire, which provides a very low resistance connection. These clamps have been extensively used for both power and telephone requirements for the past several years and have given general satisfaction.

• • •

Q. Is there any possible manner in which a main frame may be illuminated so that an extension cord light need not be used for running jumper wires?

A. Properly placed fluorescent tubes provide a good shadowless light that is entirely suited to main frame use. Good lighting is extremely necessary in soldering to assure that good connections are made. The new quick heating soldering gun which is equipped with a light attachment has been found extremely useful for jumper wire connection soldering on main frames.

• • •

Q. What is considered the estimated life of buried type wire when insulated with the new plastic materials now available?

A. We do not have any information on buried wire installations of this type.

Drop wire insulated with natural rubber and the various new plastics appears to be superior to many of the older types of wire insulation and should have a considerably longer service life.

Buried wire, in general, has not, however, proved popular for the past several years in many localities and we do not have a report on any recent new installations. Due to lightning trouble, it has been found necessary to install a bare ground wire along each run of buried wire.

In view of the cost of this type of plant, a shielded buried wire is generally considered more desirable. This type wire provides both electrical and mechanical protection. If this wire is properly installed, its service life should be almost indefinite. Whereas, if it is installed near a road where it is subject to grading operations, or placed above the frost line in cold climates, its life may prove comparatively short and troublesome.

• • •

Q. We have found that considerable leakage is often caused by jumper wires on rural lines during long periods of wet weather. How can we reduce or eliminate this leakage?

A. Bridle wire insulators which consist of a bell shaped glass insulator that slips over the insulation of the jumper to provide a dry, leak-proof connection between the bare and insulated wire may be used for this purpose.

• • •

TECH. ED. NOTE: The answer to a question pertaining to the constituency of present-day creosote, published on page 20 of the July 31 issue, was questioned recently by a reader and it is our desire to clarify our answer.

The question was: "Is it true, as frequently reported, that creosote now on the market is of an inferior quality due to the removal of certain preservative components of coal tar during processing?"

In our answer we quoted a resolution adopted at a recent meeting of the Wood Preservers Association, embodying the findings of the Wood Preservation Committee of the American Railway Engineering Association, as to whether there has been a removal of any constituent of creosote.

The publication of the WPC resolution in our answer indicated that there has been a change in the constituency of creosote as the resolution itself, in quoting the findings of the railway association committee, stated in part:

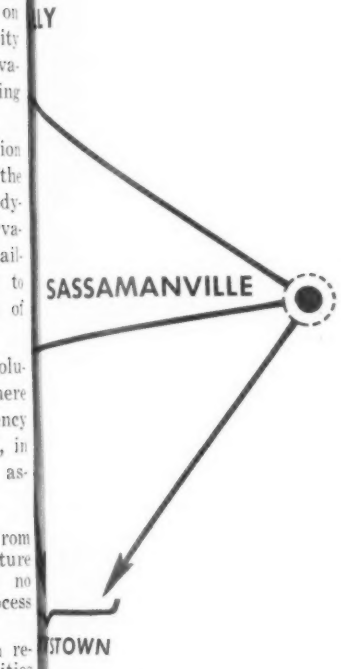
" 'As regards revisions resulting from changes in process of manufacture your subcommittee finds that no changes have occurred in the process itself.

" 'With respect to an impression recently current that excessive quantities of tar acids, naphthalene and other constituents are now being removed from the creosote, your subcommittee finds that such is not the case as to the extraction of the low boiling tar acids (phenols), since the extraction of these acids has been common practice for many years. In regard to naphthalene, consideration should be given to the practice in the industry over a long period of years. It is a fact that depending upon the location of manufacture, this constituent, which is represented in the specification by the fraction distilling up to 235° C. and limited to a maximum of 25 per cent, has varied in any one year from 5 to 20 per cent. During the period of the war, in accordance with government regulation, larger percentages were removed, but this is not general practice at the present time. Your subcommittee, therefore, finds that, except for the war years, excessive quantities of naphthalene have not been removed.' "

The point raised in the reader's question as to whether the change in the constituency of creosote has resulted in an inferior product as far as its preservative quality is concerned was not answered as we do not have any information on this point and our answer was not intended to reflect an opinion on this subject, one way or the other.

A TELEPHONE & TELEGRAPH CO. HAS

tandardized on Strowger



In 1936, the Conestoga Telephone & Telegraph Company of Pennsylvania installed its first Strowger Automatic equipment, including an Automatic Toll Board, in its headquarters exchange at Birdsboro. The excellent performance of Strowger equipment has since induced the company to install two 200-line unattended exchanges. Today, work is under way on the conversion of several more of the Company's exchanges, and plans have been made for the eventual operation of the entire network on a "100% Strowger" basis. The Conestoga Company has found that whatever its specific problem in each one of its exchanges, Strowger Automatic equipment provides the perfect solution.

Vice President and General Manager J. K. Stoltzfus says: "Our company is highly pleased with . . . Strowger Automatic. . . . Local calls, long distance toll and subscribers have always increased when Automatic is installed."

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MAINTENANCE TESTING EQUIPMENT

By JOHN A. BRACKEN

PART X. The preceding article in this series appeared in the Aug. 7 issue, p. 21.

THE capacitance (capacity) of a telephone set capacitor (condenser) is its ability to store a certain amount of electric energy when subjected to an EMF. This action is governed by the proximity of the plates, their substance, cross sectional area, and the dielectric. The dielectric is the insulating material separating the plates.

When a subscriber's telephone set has a capacitor in its circuit, as illustrated in *Fig. 1*, and the line is connected to the testing arrangement (as shown in *Fig. 1* in Part VII, TELEPHONY, Apr. 17, p. 15), the operation of the voltmeter is such that the discharge from the capacitor will cause a "kick" of the meter needle amounting to several scale divisions. It is possible to determine the capacitance by simply comparing with the volt meter "kick" obtained from a capacitor of known value in microfarads.

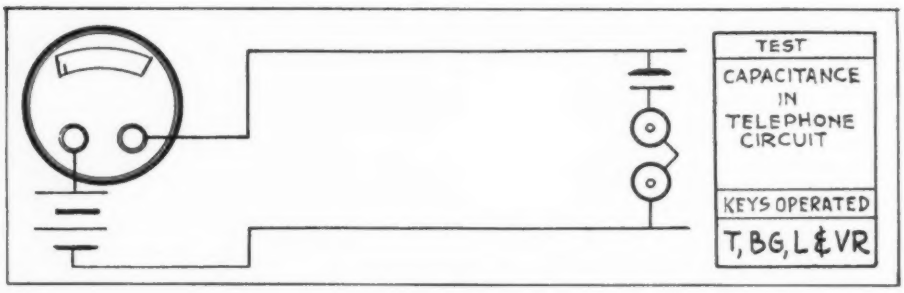


Fig. 1

As one farad is too large a capacitance for ordinary practical purposes, the unit called "microfarad" is abbreviated "MF." It is equal to one-millionth of a farad and generally is applied for rating capacitors used in the operation of a telephone system.

By alternately charging and discharging the station telephone set capacitor, and observing the voltmeter needle "kicks," the ballistic test is performed.

When making a ballistic test on a telephone line circuit when the station set capacitor is fully charged, the current from the test battery ceases to flow and the voltmeter needle gradually returns to its zero position. After being charged, the capacitor will discharge the current stored therein, back through the voltmeter. All this can be verified in *Fig. 1* by operating the T, BG, and L keys, and then moving the VR key rapidly back and forth. This will cause the telephone set capacitor to alternately charge and discharge and will be indicated by the "kick" of the voltmeter needle.

Fig. 2 represents a four-party line with the capacitors and ringers connected in series between the tip and ring sides of the line, respectively, and to ground. To make a ballistic test on the tip, operate the T, BG, and R keys and then move the VR key back and forth quickly and observe the voltmeter needle "kick." To test on the ring, operate the T and BG keys and repeat the VR key operation.

In the manner outlined above, ballistic continuity tests of non-working exchange cable conductors may be made between the tip and ring, also between the tip to ground and the ring to ground.

Generally speaking, the capacitance of a telephone line is distributed over the entire length of the line conductors, so that the conductors may be considered as shunted by an infinite number of extremely small capacitors scattered along their entire length.

In the ballistic test, it is said that the voltmeter needle "kick" is produced in a manner similar to the action of a bullet fired from a rifle striking a suspended weight. The energy of the bullet is imparted to the weight which causes it to deflect and come to rest at an extreme position.

When the weight comes to rest in its extreme position, the energy imparted to it has all been dissipated in overcoming the action of gravity, as the weight is now in a higher position than when at rest. When a capacitor is discharged through the test circuit containing the voltmeter, the energy of the charge is imparted to the meter moving system and causes it to move against the opposition of the spiral spring until the energy is all stored in the spring.

The meter needle and its moving system does not remain in the deflected position, but immediately starts to return to its zero position and, accordingly, the energy stored in the spring is imparted to it.

As the charging and discharging of the capacitor is not a steady current, the time necessary for the meter needle "kick" to complete a full deflection, called the period of deflection, is usually long enough to practically permit the whole charge to pass during

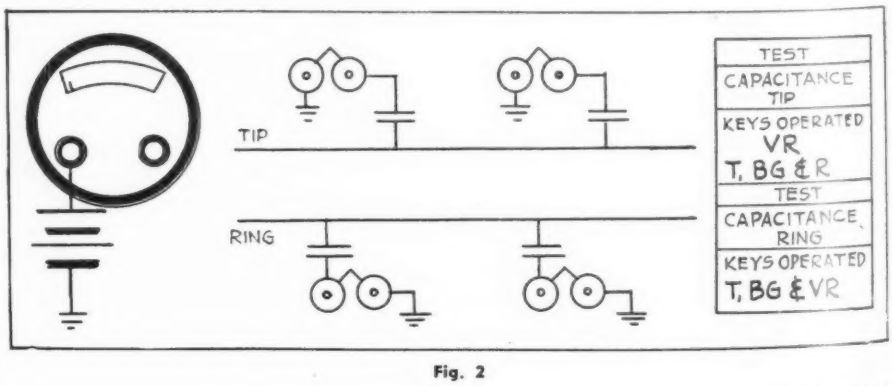


Fig. 2

the early part of the deflection. However, if the meter has a short period, the return movement may begin before the capacitor discharge is completed.

It may be said that the process of charging a capacitor is somewhat like blowing up a rubber balloon. The elasticity of the rubber resists the inflation process so that, as more air is forced into the balloon, greater and greater pressure must be exerted to add further quantities of air to that already in the balloon.

Starting with a definite amount of pressure, there will be a rush of air when the connection to the balloon is first made. As the balloon fills, and the rubber becomes stretched, the pressure of the air inside increases and pushes back so that air comes in slower. Eventually when the pressure inside the balloon equals that of the source of air there will be no more air entering it. If more air is added after this point has been reached, the pressure of the source of air must be raised. If the process of increasing the pressure and adding air is continued long enough, the rubber is no longer able to stand the strain and consequently, the balloon bursts.

In view of this, with any particular capacitor, the quantity of a charge which can be stored in it depends directly upon the value of the EMF used for the charging process. That is, the larger the charging voltage used, the greater will be the quantity of charge stored in the capacitor. This is only true up to a certain point, for if an EMF of too great a value is used, the insulation between the capacitor plates will be broken down or punctured and the plates will be electrically connected so as to have no capacitance at all.

Perhaps the action of a capacitor in receiving a charge can be more readily understood by considering *Fig. 3*, which consists of two metal plates separated by air and connected to a source of EMF through a voltmeter and two switching keys.

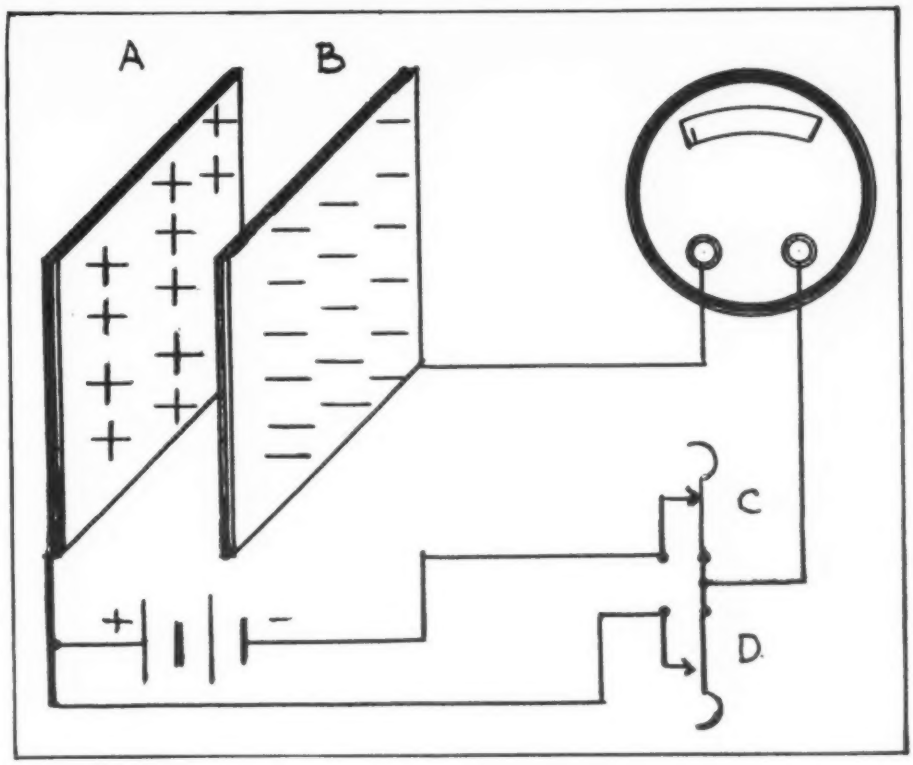


Fig. 3

When the circuit to the two plates is first closed to the battery by the operation of key "C," there is a flow of current which charges the plates to the potential of the battery. The "B" plate will become negatively charged and the "A" plate will become positively charged. These charges will spread out over the plates and are prevented from proceeding further around the circuit by insulation (in this case air) between the plates.

This may be looked upon as setting up in the insulation itself an opposing force analogous to the opposing force set up in a spring when it is compressed. When the opposing force just balances the impressed force a steady state is attained, just as the compressing of the spring ceases when the force producing the compression is just balanced by the opposing force due to the elasticity of the spring.

Referring again to *Fig. 3*, the visible result of the momentary movement of the current to the plates is a "kick" of the voltmeter needle when key "C" is first operated. After the key has been operated for an instant and then released, the plates are in the condition shown, that is, with plates "A" and "B" being charged, something has happened to the space between the plates. It has been given an electrical strain which may be thought of as somewhat similar to the strain produced in the structure of a steel bar which is held firmly at one end and twisted at the other end.

This electrical strain holds the charges on the plates "A" and "B" after the EMF of the battery is removed. The charges on the plates remain in this condition until something is done to change it.

If key "D" is now operated this will discharge the plates by connecting them together in series with the voltmeter thus relieving this strain and bringing the intervening material between the plates back to normal. Due to the operation of key "D" there will be another momentary movement of current, this time from the plates to the voltmeter, which causes the meter

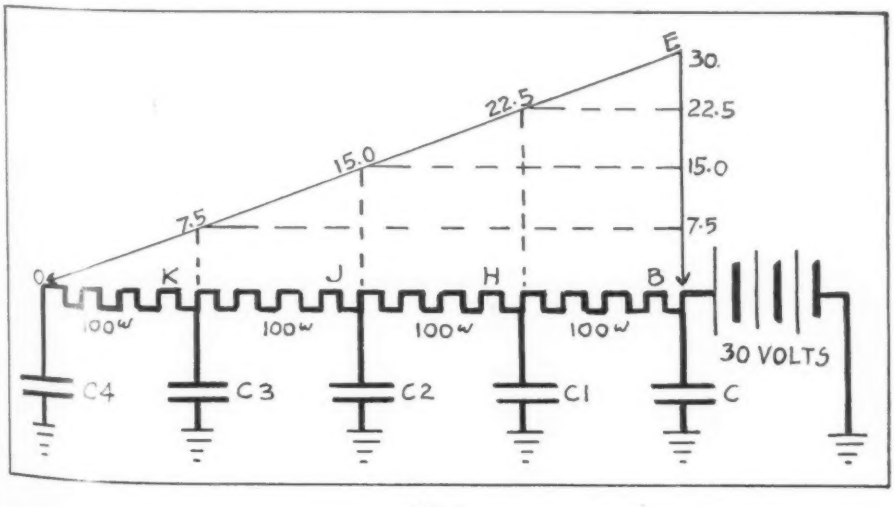


Fig. 4

needle to "kick" in the opposite direction.

It is obvious that there can, at no time, be a steady flow of current through the circuit, since the electrons will stop moving in either direction as soon as the plates reach the same conditions of charge and discharge.

The charge of a capacitor is proportional to the EMF between its two plates, and equal to the capacitor's capacitance multiplied by the EMF. Since the EMF along a telephone line drops in proportion to the resistance

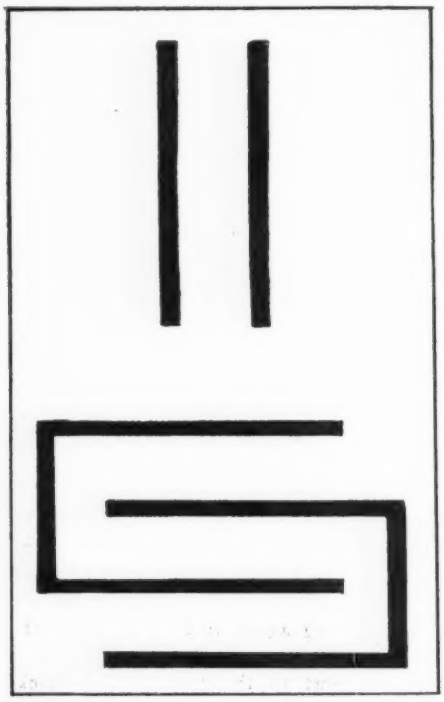


Fig. 5

overcome, it is evident that the charge accumulated in a capacitor of any given capacitance will vary according to the position it may occupy in the circuit.

The point "B" to "O" in *Fig. 4*, represents the resistance of a telephone line wire, and the EMF applied to it at "B" is represented by the perpendicular line "BE." The capacitors C, C1, C2, C3, and C4 are of equal capacitance and are respectively connected to the telephone line at points 100 ohms apart, as shown. Then, since the line "EO" represents the voltage drop, the charge received by the capacitor nearest the battery will be greater than that imparted to the others farther away.

If the capacitance of each capacitor be two micro-farad, and at the point "B" where the capacitor "C" is connected to the circuit, the EMF equals 30 volts, then that capacitor will receive a charge equal to the product of its capacitance into the EMF at that point, or 2x30=60 volts, and by formula: $Q=CV/10^6$, where "Q" is the

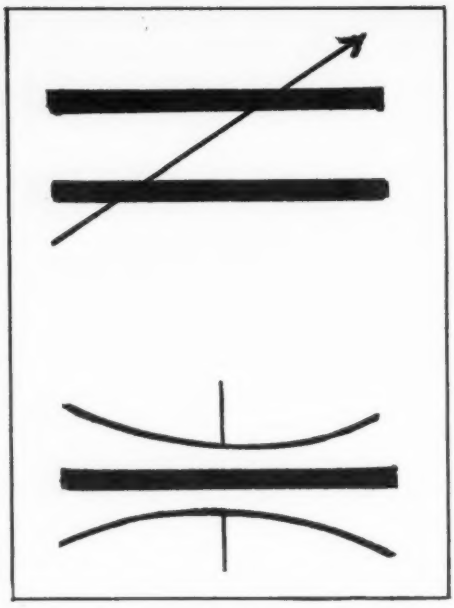


Fig. 6

quantity of electricity stored in the capacitor, "C" the capacitance in farads, and "V" the voltage. Then 2x30/1000000=.000060 coulombs or 60 micro-coulombs.

A coulomb is defined as the practical unit of electric quantity. Such a quantity of electricity (given as $6.28x10^{18}$ electrons) as would pass in one second through a circuit carrying an unvarying current of one ampere.

As one plate of each capacitor in *Fig. 4* is shown as being grounded, or at the zero point of EMF, the capacitors at the successive points along the conductor (with each capacitor being two micro-farad) will be charged to an amount represented by the voltage at those points.

At "B" and "H," for instance, this voltage will be 30 and 22.5 volts, respectively; at "J," midway in the circuit resistance, the voltage will have dropped to 15 volts or half its value.

At point "O," the EMF of the circuit will have dropped to zero, and both plates of capacitor C4 will be at the same EMF, a condition that does not admit that capacitor being charged at all.

Fig. 5 shows two symbols commonly used in telephone circuits practices to represent fixed capacitors, and *Fig. 6* indicates variable type capacitors.

(To Be Continued)

V V

Ohio Bell Announces Changes In Personnel

Personnel changes in the top executive bracket of The Ohio Bell Telephone Co. have been announced by Randolph Eide, the company's president.

Fred R. Eckley, Columbus, has been elected a vice president. Promoted from the position of general commercial manager of the company's southwestern area, he will direct business research and revenue requirements activities.

John J. Joseph, Cleveland, assistant vice president, was also elected a vice president and will have charge of the company's public relations department.

The resignations of Leroy E. Lattin, Cleveland, from the position of vice president in charge of public relations and business research and as a director have been accepted by the Ohio Bell board of directors "with deep regret and with special commendation for his distinguished service." He goes to St. Louis, Mo., having been elected a vice president of the Southwestern Bell Telephone Co., and will have charge of business research and revenue requirements.

With the resignation of Mr. Lattin from the board of directors, E. H. Gustafson, vice president in charge of personnel, was elected a board member.

Succeeding Mr. Eckley as general commercial manager is Fred D. Leary, Columbus, promoted from division commercial manager of the company's southern division. Succeeding Mr. Leary as division commercial manager is Homer E. Smart, promoted from Columbus district commercial manager; and John P. Gibbs, division commercial service manager, replaces Mr. Smart as Columbus district commercial manager. Clarence O. Poleni, Cleveland, executive assistant, was appointed an assistant vice president.

V V

Illinois Consolidated Borrows $500,000 to Expand

Illinois Consolidated Telephone Co., Mattoon, has announced that it has borrowed $500,000 from the Mutual Life Insurance Co. of New York.

The loan was in the form of 3¼ per cent first mortgage bonds due in 1975. The company plans to use the money for its general expansion program. It spent $118,000 in the first three months of this year and will spend about $1.5 million in the next few years on its construction program.

V V

Resigns Association Post

W. H. Thomson, Ashland, Ky., has resigned as secretary-treasurer of the Kentucky Independent Telephone Association. He is leaving Kentucky, where he has been commercial manager of the Ashland Home Telephone Co., for several years, Sept. 15 to take up a new position with the Southwestern Associated Telephone Co., Lubbock, Tex.

COURTS and COMMISSIONS

Progressive Party Files Complaint Against Telephone Deposits

The Progressive Party in North Carolina has filed a complaint in Superior Court against the Durham (N. C.) Telephone Co., alleging discrimination by the company in refusing to install telephones in party headquarters at Durham without advance deposits of $500 for each telephone.

The action, in which a writ of mandamus is sought, together with "damages in such sum as the jury will find," was started after the North Carolina Utilities Commission overruled the plaintiff's protest in the matter.

The party's state headquarters recently were moved to Durham from Greensboro, and the Durham Telephone Co. required the deposits because the party had left Greensboro owing a large amount to the Southern Bell Telephone & Telegraph Co. for telephone services there.

After the party had turned to the North Carolina commission, an investigation was made, and then Commission Chairman Stanley Winborne ruled that "every telephone company is authorized to require deposits guaranteeing payment of bills whenever it is reasonably certain that there will be an unusual use of the telephone facilities and the subscriber is either a nonresident or has not a recognized financial responsibility. As to whether the requirement of the telephone company is reasonable depends upon the extent of the expected use of the telephone and the ability of the user to pay the bill. There is no hardship about your making a deposit of $500 because if you do not consume it in telephone bills the balance will be refunded to you with 6 per cent interest."

In reply to the petitioner's charge of "discrimination," Mr. Winborne pointed out that the party left Greensboro owing $587.03 for telephone service to Southern Bell and that since Southern Bell handles long distance service out of Durham it "notified the Durham Telephone Co. that it wanted such action taken as would protect their accounts in Durham." (Part of the amount since has been paid.)

After Mr. Winborne's ruling in the case, the party turned to the courts seeking a writ of mandamus compelling the Durham Telephone Co. to install telephones without requiring the deposits. A hearing has been set for Sept. 20.

V V

Minnesota Independent Gets Higher Rates for Dial

The Central Telephone Co. on Aug. 16 received approval of the Minnesota Railroad & Warehouse Commission to increase the rates at its Porter, Minn., exchange upon conversion to dial. The exchange serves 113 stations.

Following are the present rates and the new dial rates:

	Present Gross Rates	*New Gross Dial Rates*
One-party, business	$2.50	$4.50
Two-party, business		3.75
One-party, residence	1.75	3.00
Two-party, residence	1.50	2.50
Rural Business (Metallic)	1.75	3.50
Rural Business (Grounded)	1.50	....
Rural Residence (Metallic)	1.75	3.00
Rural Residence (Grounded)	1.50	....

Present and new rates are subject to a discount of 25 cents if paid on or before a certain date.

V V

Three Georgia Companies Increase Rates

The Georgia Public Service Commission recently approved increased rates for three Independent telephone companies.

On Aug. 25, the Commerce Telephone Co. was authorized to charge the following rates at its Commerce and Jefferson exchanges:

	Commerce	*Jefferson*
One-party, business	$4.25	$4.25
One-party, residence	3.00	2.75
Two-party, residence	2.50	2.50
Rural, business	2.50	2.50
Rural, residence	2.00	2.00

The Commerce exchange has approximately 1,000 stations while at Jefferson there are around 350 stations.

Also on Aug. 25, the commission authorized the Cairo Telephone Co. to place into effect Sept. 1, the following rates at its Cairo exchange:

One-party, business	$4.25
Two-party, business	3.75
One-party, residence	2.75
Two-party, residence	2.50
Four-party, residence	2.25
Rural, residence	2.00

The Cairo exchange serves around 550 stations.

The Milan Telephone Co. was permitted, in a commission order dated Aug. 26, to place the following increased rates into effect at its Milan exchange, which has around 50 stations:

	Old Rates	*New Rates*
One-party, business	$2.25	$3.00
Two-party, business	2.00	2.50
One-party, residence	1.75	2.25
Two-party, residence	1.50	2.00
Rural, residence	1.50	2.00

V V

Hickory (N. C.) Co. Increases Rates at Three Exchanges

The Hickory (N. C.) Telephone Co. has requested the North Carolina Utilities Commission for higher rates in Hickory, Valdese and Granite Falls and its petition will be heard by the commission on Sept. 15.

The company has applied for increases ranging from 25 cents to $2.25 to cover the costs of recent improvements to its three exchanges.

Under the proposed schedule, the cost of one-party business service at Hickory would be increased from $4.50 to $6.50 a month and the cost of one-party residential service would be raised from $2.50 to $3.75. Increases in Valdese and Granite Falls would range from 25 cents to $1.00.

The Hickory company has just converted to dial its Hickory, Longview and Brookford exchanges, according to Manager W. A. Carpenter. Installation of the new dial equipment represented

an investment of approximately $600,000.

The Western Carolina Telephone Co., which is installing an exchange at Cashiers, N. C., also has petitioned the North Carolina commission for permission to establish the following monthly rates there: $3.50 for single party, business, and $3.00 for two-party business service; $3.00 for individual, residence and $2.50 for two-party residence service.

The North Carolina commission on Aug. 31 issued an order authorizing the Central Mountain Telephone Co., Candler, N. C., to make rate increases ranging from 25 cents to $1.00 per month for service in Bakersville, Burnsville, Enka, Leicester, Hot Springs and Marion. The new rates will bring the company an estimated $8,187 per year. The company, in asking the commission to grant the increase, said it was necessary due to rising operating costs.

The commission also has announced that it will resume Sept. 29 a hearing of a case in which the Central Carolina Telephone Co. is charged with rendering inadequate service.

V V

Florida Commission O.K.'s New Rates for Southeastern

The Southeastern Telephone Co., with headquarters in Tallahassee, on Aug. 25 received authority from the Florida Railroad & Public Utilities Commission to increase rates in eight of its exchanges on Sept. 1 and in two exchanges upon conversion to dial.

The commission's order was issued following a rehearing on July 26 and 27 of the company's original rate increase petition which was filed early this year and upon which hearings were held Mar. 23, 24 and 25 and Apr. 5. The commission denied the original petition on May 28 and the company filed for the rehearing on June 12 (TELEPHONY, June 26, p. 30).

According to the commission many subscribers appeared at the rehearing, testifying that the company had made many improvements in service and was entitled to increased rates.

The commission refused to grant increased rates at the Valparaiso, Niceville and Bonifay exchanges until service has been improved. Immediate increases were authorized at Tallahassee, Crawfordville, Crestview, Fort Walton, Greenville, Monticello, Shalimar and St. Marks. Higher rates at DeFuniak Springs and Madison will become effective when those exchanges are converted to dial.

In the original hearings the commission requested the company to present separations of property, revenues and expenses between intrastate and interstate business, which the company was not prepared to do. On this point, and in connection with the need of the company for increased revenues, the commission made the following statement in its Aug. 25 order approving the higher rates:

"In its original order the commission found that the applicant utility had failed to present separations of property, revenues, and expenses between intrastate and interstate business and as a result the commission was without reliable data upon which it could determine to what extent, if any, toll rates or exchange rates or both should be increased to produce a fair and reasonable return. At the rehearing the utility took the position that it would be impossible to make such a separation in less than six months' time and that its financial condition was such that it must have some relief before such a study could be completed.

"While the commission does not have the benefit of the information it feels it should have if it is to properly fix the rates to be charged by applicant, nevertheless, it is apparent from the record herein, as supplemented at the rehearing, that applicant's net overall revenues have been gradually and constantly falling off while its costs of operation, including wages, materials, and supplies, have been continually increasing. . . .

"In the fixing of just and reasonable rates and charges for intrastate exchange telephone service, this commission recognizes that it is necessary that said rates and charges produce an amount sufficient to enable telephone companies to pay their legitimate operating expenses, including taxes, and have enough left from said operations to pay the interest on their debt obligations and to pay such reasonable dividends as will enable them to obtain the necessary additional capital needed in the discharge of their public duties in the state. It appears from the record in this case, as supplemented at the rehearing herein, that the presently existing rates and charges for applicant's exchange service are insufficient to do this.

"Adequate telephone and communication facilities and service are of paramount importance to the economy of a fast developing community. Important business transactions depend in a large measure upon the accessibility of adequate communication facilities. Social intercourse requires a dependable telephone service. The public welfare depends upon the ability of the citizens to communicate with each other through modern methods with the least possible inconvenience and delay.

"It is the duty of this commission to see that the public receives the best possible service at the lowest possible rates which will give the utility a fair and reasonable return on the property used and useful in rendering service to the public. In fixing rates which will secure such a return for a public utility, the public welfare is protected because the utility is thereby enabled to maintain a strong financial record which will make it possible to secure capital funds with which to finance its rehabilitation and expansion program.

"Having carefully considered the entire record in this proceeding and feeling that the public welfare will be best served by allowing the utility to continue its program of rehabilitation and expansion, to the end that permanent improvement can be achieved in the service rendered, the commission is of the opinion, and so finds, that the application and proposed increases should be granted. However, the commission cannot waive its requirement that appropriate separation be made of applicant's property, revenues and expenses between intrastate and interstate business as specified in the previous order herein. Such separations will be temporarily waived but must be completed and furnished this commission not later than nine months from the date of this order."

Following are the major *net* rates authorized by the commission:

	1-Pty.	*2-Pty.*	*4-Pty.*	*Rural*
Tallahassee				
Business	$5.25	$4.75	$4.00	$3.75
Residence	3.25	2.75	2.50	2.50
Crawfordville				
Business	4.25	3.25	2.75	3.75
Residence	3.25	2.75	2.25	2.50
Crestview				
Business	5.00	4.25	3.75	3.75
Residence	3.50	2.75	2.25	2.50
DeFuniak Springs				
Business	5.00	4.25	3.75	3.75
Residence	3.50	2.75	2.25	2.50
Fort Walton				
Business	5.00	4.25	3.75	3.75
Residence	3.50	2.75	2.25	2.50
Greenville				
Business	4.25	3.25	2.75	3.75
Residence	3.25	2.75	2.25	2.50
Madison				
Business	5.00	4.25	3.75	3.75
Residence	3.50	2.75	2.25	2.50
Monticello				
Business	4.50	3.75	3.25	3.75
Residence	3.00	2.50	2.25	2.50
Shalimar				
Business	5.00	4.25	3.75	3.75
Residence	3.50	2.75	2.25	2.50
St. Marks				
Business	4.25	3.25	2.75	3.75
Residence	3.25	2.75	2.25	2.50

V V

Orders Service Between Church And Oklahoma City Restored

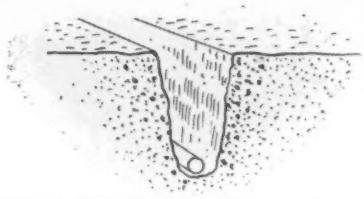
The Southwestern Bell Telephone Co. has been ordered by the Oklahoma Corporation Commission to restore Oklahoma City telephone service to the Soldier Creek Baptist Church.

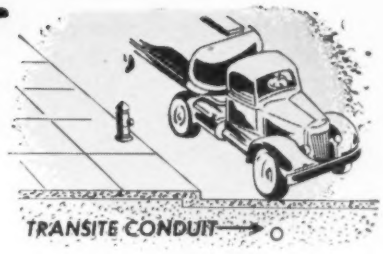
The service was formerly rendered in the name of D. R. Philley, then pastor of the church. After his departure the service was discontinued because the telephone had a private listing.

When Rev. John R. Walker succeeded Mr. Philley as pastor of the church, he applied for restoration of the telephone connection to Oklahoma

Do you know these facts about TRANSITE DUCTS?

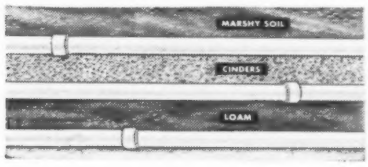
TRANSITE CONDUIT

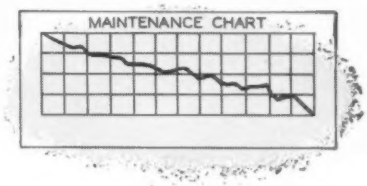




This durable duct is for use underground, or on exposed locations without a protective casing . . .

Under sustained earth loads and traffic pressure, it maintains its strength and true form . . .

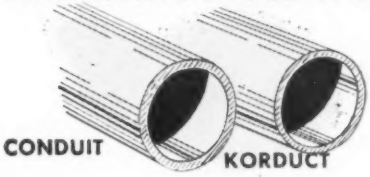


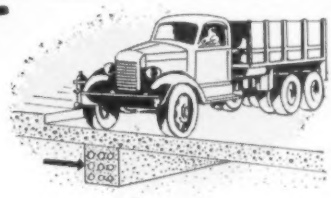


Transite Conduit effectively resists weather, smoke and fumes . . . is virtually unaffected by corrosive soils . . .

Its cost is low and, in service, it is much more economical than other materials of comparable strength and durability.

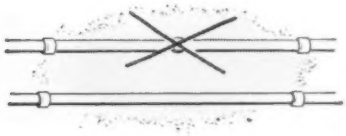
TRANSITE KORDUCT

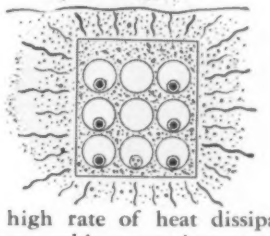




Thinner walled, lower priced than Transite Conduit, Transite Korduct is for use where an encasement is specified . . .

Because Korduct is incombustible, less concrete is required between ducts to provide the necessary degree of fire protection.





Its long lengths (10 feet) mean fewer joints, reducing the number of spacers required . . .

Its high rate of heat dissipation lowers cable operating temperatures . . . increases system capacity . . .

. . . *In addition*, both Transite Conduit and Transite Korduct have these characteristics:

1. INCOMBUSTIBLE—made of asbestos and cement, they cannot burn . . . will not contribute to the formation of dangerous smoke, fumes or gases.

2. IMMUNE TO ELECTROLYSIS—Transite Ducts are nonmetallic and inorganic . . . unaffected by electrolysis.

3. SMOOTH BORE—Making cable pulls easier, both at initial installation and after years of service.

4. EASILY INSTALLED—Lining up is fast and accurate because Transite Ducts combine lightweight, long lengths, simple assembly.

For details and specifications, write for Data Book DS-410, Johns-Manville, Box 290, New York 16, N. Y.

JOHNS-MANVILLE JM PRODUCTS

Johns-Manville TRANSITE DUCTS

TRANSITE KORDUCT—for installation in concrete

TRANSITE CONDUIT—for exposed work and installation underground without a concrete encasement

City. Following a hearing, the commission issued an order that since the service is paid for by the church, although listed under the name of Reverend Walker, the direct connection with the Oklahoma City exchange should be restored even though the parsonage is located in the Midwest City area outside the Oklahoma City telephone exchange area. The Southwestern Bell company now has an exchange in Midwest City.

V V

South Dakota Independent Receives Rate Increase

Higher rates were granted to the Storla (S. D.) Telephone Co. Aug. 31 by the South Dakota Public Utilities Commission. The increases, which became effective Sept. 1, include net rental rates of $1.75 a month per telephone for rural party line grounded and $2.25 a month per telephone for rural party line metallic. An improvement in service was also ordered by the commission.

The company operates several rural party lines centering at Storla, with its principal switching connection at Letcher. It has 110 subscribers.

V V

Granted Higher Rates to Cover Increased Operating Expenses

Increased rates were ordered for the Elmore Coosa Telephone Co., Eclectic, by the Alabama Public Service Commission following a recent hearing in which the company testified that during the 12 months' period ending June, 1948, operating costs, not including depreciation and interest, had exceeded total income by over $345. Interest charges of $1,120 brought this deficit to over $1,465 before any charges for depreciation, the company reported. (TELEPHONY, Feb. 28, p. 23).

The new rates, in effect Sept. 1, include:

Class of Service	*Monthly Rate*
Business:	
One-party	$4.00
Two-party	3.00
Eight-party	2.50
Residence:	
One-party	2.75
Two-party	2.50
Four-party	2.25
Eight-party	2.00

V V

Court Orders Rate Increase For Bell in Tennessee

The Tennessee Court of Appeals on Aug. 28 granted the Southern Bell Telephone & Telegraph Co. a temporary 16.27 per cent general average rate increase in Tennessee pending a final decision on the question by the courts (TELEPHONY, July 17, p. 26).

The court directed the company to post a $2,000,000 bond pending final action, probably late this month, which would cover refunds in event of an adverse decision. Increased rates become effective as soon as the bond is posted. Sliding scale rates prevail in different parts of the state.

The company first sought the rate increase in June, 1947, but it was denied by the Tennessee Railroad Public Utilities Commission. Several chancery court actions brought the case before the State Court of Appeals.

The court's ruling was in the form of an interlocutory injunction, granting the temporary rate increase pending final court action on the merits of the case.

The increased rates would give the company about $4,000,000 a year in new state-wide revenues.

V V

Northwest Company Gets Rate Increases in Wisconsin

The Northwest Telephone Co., Tomah, Wis., operating 19 exchanges in the state, has been authorized by the Wisconsin Public Service Commission to increase its rate charges $52,914 annually.

The new rate schedule will bring the company a return of 6.52 yearly, the commission said.

The increases will not be applied uniformly throughout the system, under the commission order, which explained that some exchanges are now earning unreasonable profits, while others are suffering losses.

There will be rate decreases at Cadott, LaGrange, Ripon and Boyd, and substantial increases at Chetek, De Forest, Easy Troy, Palmyra, Poynette and Tomah.

Other revisions upward in the rate structure are effective at Delafield, Dousman, Eagle, Genesee Depot, Mukwonago, Spooner, Trego, Wild Rose and Wonewoc.

V V

Appointed Assistant

M. E. Serle has resigned as assistant engineer in the gas and electric department of the Oklahoma Corporation Commission. He has been appointed assistant to B. Richardson, telephone engineer of the commission.

V V

Rates Effective Nov. 1

Failure of the Eagle (Neb.) Independent Telephone Co. to make the improvements in service which were made a condition of a recently granted rate increase, has resulted in a supplemental order by the Nebraska State Railway Commission postponing until Nov. 1 the effective date of the new schedule (TELEPHONY, July 31, p. 28).

V V

Asks Common Stock Issue

The Mansfield (Ohio) Telephone Co. has requested permission from the Ohio Public Utilities Commission to issue 31,886 shares of common stock at a value of $25.28 a share. The company said it would use the stock to redeem $77,800 worth of first mortgage bonds and provide a capitalization of $729,283.

V V

Summary of Commission Rulings and Hearings

Kansas Corporation Commission

Sept. 7: Hearing on application of Southwestern Associated Telephone Co., Lubbock, Tex., for a certificate relating to a proposed issue of its $2.00 cumulative preferred stock in the amount of $1,100,000.

Sept. 13: Hearing on application of Lane (Kan.) Telephone Co. for authority to change rates.

Sept. 13: Hearings on applications of A.&P. Cooperative Telephone Co. Inc., Abbyville, for permission to transfer its franchise and to cease operating at Abbyville and Plevna; and J. J. Gagnebin, John Wagler and Frank Connery for permission to operate a telephone company in the same territory.

Sept. 13: Hearing on application of Farmers & Citizens Telephone Co., Munden, for authority to change rates.

Sept. 20: Hearings on rate applications of: (1) D. Monroe Cobb, Partridge; (2) Farmers Mutual Telephone Co., Wakefield, for Manchester.

Sept. 20: Hearing on application of Cobb Telephone Co., Overbrook, for permission to transfer its franchise and to cease operating at Roxbury.

Oct. 4: Hearings on rate applications of Mijo Telephone Co, Spring Hill, for its Spring Hill and Stillwell exchanges, and of the Tri-County Telephone Co. for its Parker station.

Oklahoma Corporation Commission

Sept. 8: Hearing on application of residents near Cloud Chief to have the area declared vacant so that they may secure service from a company willing to serve them.

Sept. 16: Hearing on application of residents near Noble to require the Southwestern States Telephone Co., Brownwood, Tex., to give adequate rural service.

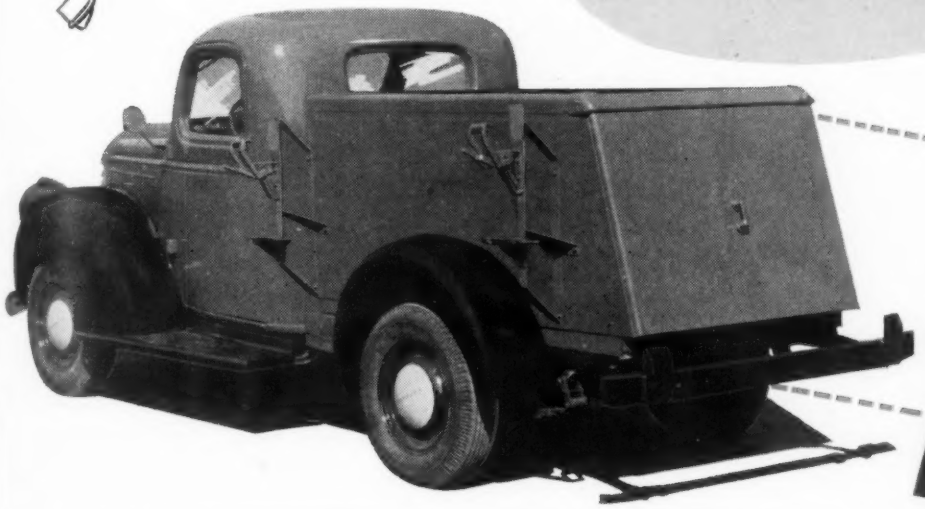
Sept. 17: Hearing on application of E. K. Cross Telephone Co., Webber Falls, for permission to increase rates.

Sept. 21, 22, and 23: Hearing on evidence contesting application of Southwestern Bell Telephone Co. for increased intrastate exchange rates in Oklahoma.

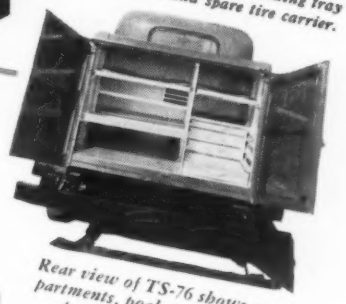
Sept. 22: Hearing on application of Colbert (Okla.) Telephone Co. for increased rates.

Oct. 1: Continued hearing on appli-

American TS-76 TELEPHONE BODY



Special compartment with sliding tray for payout reel and spare tire carrier.



Rear view of TS-76 shows compartments, pockets and drawers for carrying equipment.

SPECIALIZED BODY USED FOR

Installation - Maintenance - General Service

Q. What makes this American Body, TS -76, so popular for telephone installation, maintenance and general service?

A. Utility design — a place for everything. The outside features an "S" ladder and all-around body compactness.

Ask us about the many features on this body.

Now, look inside (views at right). You find several trays (various depths and widths); material drawers with flexible compartments (movable partitions); a sliding shelf for payout reel and spare tire carrier; space for rubber goods, first aid kit, stepladder, instruments, long bits and other items.

The sliding shelf permits easy access to a fully loaded reel. When not in use, the shelf slides in place and the door (side opening) is closed and locked. Rear and side doors have special locks; trays have locks so they cannot move when truck is in motion.

Ask American about the TS -76, or if you have other requirements, remember American specializes in all types of bodies for utilities.

GENERAL DIMENSIONS

Overall width	47 inches
Overall length	80 inches
Inside height	29½ inches
Height from chassis to top	35 inches
Weight	700 pounds

(All figures approximate)

Bodies may be purchased in prime paint or finished to your standard color. They can be mounted on your chassis at our factory or can be crated and shipped for mounting at destination.

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ACB and

cation of Southwestern Bell Telephone Co., Southwestern Associated Telephone Co., Lubbock, Tex., Southwestern States Telephone Co., Brownwood, Tex., and Oklahoma Telephone Co., Broken Arrow, for continuance of rules similar to those of expired federal regulation U-2 governing order of service installation.

Oct. 1: Hearing on application involving boundary lines between territory of the Southwestern Bell Telephone Co.'s Tulsa exchange and the Oklahoma Telephone Co.'s exchange at Broken Arrow.

Minnesota Railroad & Warehouse Commission

Sept. 22: Hearing on application of Deer River (Minn.) Telephone Co. for authority to change rates.

Wisconsin Public Service Commission

Sept. 7: Hearing on application of Greenwood (Wis.) Telephone Co. for authority to purchase West Side Mutual Telephone Co., Greenwood.

Sept. 9: Hearing on application of Eau Claire County Telephone Co., Eau Claire, for authority to increase rates.

Sept. 10: Hearings on applications of Wisconsin Telephone Co., Commonwealth Telephone Co., Madison, and Mid-West States Telephone Co. of Wisconsin for authority to purchase Lima Telephone Co., Sheboygan Falls, and to apply their respective rates for service to subscribers thus acquired.

Sept. 10: Hearing on application of Wisconsin Telephone Co. for permission to purchase Town Sheboygan Falls Rural Telephone Co., Sheboygan Falls, and to apply its prevailing rates for service to subscribers thus acquired.

Sept. 14: Hearing on complaint of John B. McDermott *et al* v. Wisconsin Telephone Co. and the Belmont-Pleasant View Telephone Co., Belmont; proposed commission investigation of the latter company's discontinuance of certain service.

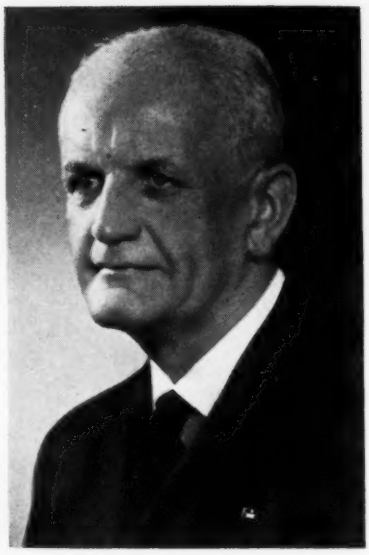
V V

IT&T Makes Changes in Subsidiary Companies

The election of Rear Adm. Ellery W. Stone (USNR) as president and Gen. William H. Harrison as chairman of the board of both the Federal Telephone & Radio Corp., and its worldwide manufacturing and sales subsidiary, the International Standard Electric Corp., was announced Aug. 26 by Col. Sosthenes Behn, chairman and chief executive officer of the International Telephone & Telegraph Corp., parent concern of the two companies.

Fred T. Caldwell, formerly president of Federal Telephone & Radio and International Standard Electric, was elected vice chairman of the boards of both corporations. These appointments became effective Sept. 1.

Admiral Stone, since 1931, has served in various executive capacities with the IT&T System, most recently holding the post of executive vice president of Federal Telephone & Radio, domestic manufacturing subsidiary of IT&T. General Harrison, formerly vice president in charge of operations and



E. W. STONE

engineering of the American Telephone & Telegraph Co., recently was elected president of IT&T, also to become effective on Sept. 1. During the war he served as a major general, acting as director of procurement, Army Service Forces, Washington, D. C.

A native of Oakland, Calif., Admiral Stone attended the University of California where he specialized in radio engineering. From 1924 to 1931, he was president of the Federal Telegraph Co. prior to its acquisition by IT&T, and from 1931 to 1937, he was operating vice president and director of the Mackay Radio & Telegraph Co. He then served as executive vice president of Postal Telegraph, Inc., and was elected president of the Postal organization in December, 1942. In 1943, he was recalled to active duty with the United States Navy. He served as chief commissioner of the Allied Commission for Italy until early 1947, with headquarters in Rome.

In addition to various campaign medals for service during World Wars I and II, Admiral Stone also holds both the United States Navy and the United States Army Distinguished Service Medals. He is a Knight Commander of the British Empire, a Knight of the Grand Cross of St. Maurice and St. Lazarus (Italy), a Grand Officer of the Crown of Italy, and a Knight of the Grand Cross of San Marino.

V V

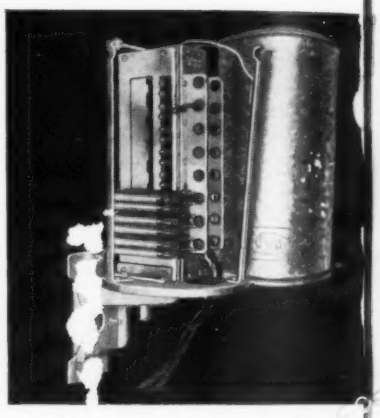
Cincinnati Telephone Man Gets Vail Medal

A year ago, Chester C. Bird, a conduit inspector for the Cincinnati & Suburban Bell Telephone Co., stopped his automobile along with several other motorists and got out to have a look-see at a truck-auto accident. The empty truck was parked at the curb and the

STROMBERG

Cook type S-20

pole cable terminal



Can be used as a protected or unprotected terminal. Made in 11, 16, or 26 pair capacity.

Cook Type S-20 Pole Cable Terminals are carefully engineered to offer the user:

MAXIMUM ECONOMY—because Type H 20 Protector Units, containing fuses and primary and secondary lightning arresters, are added only as required.

MAXIMUM CONVENIENCE for installation and servicing. Drop wire connections are at front. Drops are through individual insulating knobholes. Self-soldering nozzle to pole. Hood locks in raised position for working. Separate mounting bracket eliminates gaining of pole provides easy installation.

MAXIMUM PERFORMANCE when used separately or as part of the Cook Plans-Mount System of Protection Distribution. S-20 is of all steel construction, hot galvanized. Complete terminal designed for maximum insulation

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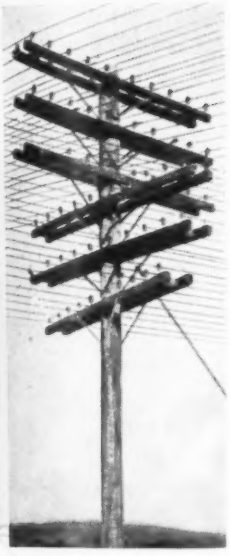

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. . . all that the name implies

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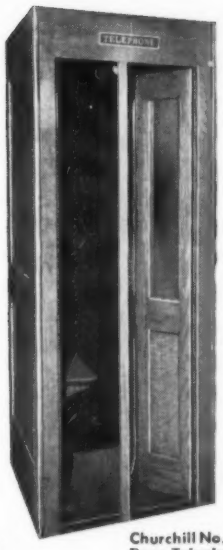

Churchill No. 100 Folding Door Telephone Booth

The

churchill telephone booth

. . . an invitation to use the pay station

Operating companies have found the CHURCHILL No. 100 Folding Door Telephone Booth a builder of pay station business.

It is constructed as a single unit and equipped with a reinforced back panel for mounting a wall telephone or coin collector.

The CHURCHILL Booth is made of selected white oak and is available in light or medium oak in a satin finish.

Included as standard equipment are electric light and automatic electric ventilator.

Overall height is 84¾"; width, 30½"; depth, 30½". Shipped knocked down and crated.

Illustrated literature available.

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Higher sustained volt[age] . . . longer life . . . rock-bottom e[con]omy—these qualities are assured t[hro]ugh the constant supervision of Am[e]rica's largest dry battery laboratory.

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driver was several feet away, discussing the accident with the occupant of the other car. Suddenly the empty truck started rolling down the steep grade. A group of children were playing about 200 ft. down the hill, and automobiles were approaching from both directions.

Mr. Bird, who has a little 10-year-old boy himself, jumped onto the running board of the truck, but found the cab door locked. Without hesitation, he crashed his fist through the glass, grabbed the steering wheel of the runaway truck and turned it in to the curb, where it struck a telephone pole and stopped on the edge of a steep bank, just 50 ft. from the youngsters.

For his heroism and quick-thinking, Mr. Bird has been awarded the Vail bronze medal and $100. The medal bears the likeness of Theodore N. Vail, president of the American Telephone & Telegraph Co. from 1907 to 1919, in whose memory the award was established in 1920. It symbolizes "preparedness," Mr. Vail's ideal of service to the public, and is given for "acts of noteworthy public service which reflect the Bell System's highest traditions of loyalty and devotion to duty."

Large Named President of Central Electric & Gas Co.

At the recent annual meeting of the board of directors of the Central Electric & Gas Co., Judson Large, Chicago, Ill., was named president of the company to succeed Max McGraw, who was elected chairman of the board.

Mr. Large has been in the service of the company and its subsidiaries since 1924, starting his utility career during summer vacations incident to his university training at Dartmouth and the University of Iowa. He was elected secretary-treasurer of the company and its subsidiaries in 1927. Mr. Large is a native of Iowa, having until 1928 resided at Sioux City, where his father was, for many years, president of the First National Bank of that city.

Mr. Large is recognized as an outstanding authority on public utility financial matters. In addition to his work with the Central Electric & Gas Co., Mr. Large is also secretary-treasurer and director of the McGraw Electric Co., and serves as a director of the Milwaukee Railroad and the Southern Colorado Power Co.

Harold A. Hanson, Lincoln, Neb., has been appointed secretary-treasurer to succeed Mr. Large. Mr. Hanson left the position of chief accountant with the South Dakota Public Utilities Commission to join the staff of the company in 1926 and has served as general auditor and assistant treasurer and assistant secretary of the company and its subsidiaries since that time. His work with the company has called for his residing at Sioux City and at Sioux Falls prior to transferring to Lincoln in 1946.

R. A. Phillips, Lincoln, Neb., was re-elected vice president and general manager of the company, and president of its subsidiaries. J. B. Gallagher, Chicago, was re-elected as vice president.

The company owns electric and gas properties throughout Nebraska and South Dakota and also through subsidiary companies, extensive telephone exchange properties which are located in 11 states.

V V

Standards for Wood Poles Available from ASA

"Wood Pole Standards" is the subject of an article by Dr. Reginald H. Colley of the Bell System in the August issue of *Industrial Standardization*, published by the American Standards Association.

Dr. Colley is chairman of the sectional committee that developed the standard, and in his article he tells about the work done in developing this

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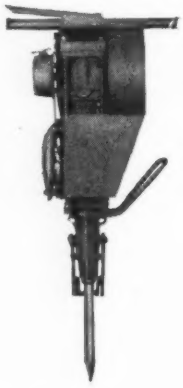
SYNTRON
Gasoline Hammer
PAVING BREAKERS



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pole standard over the past 25 years.

The new American Standard Specifications and Dimensions for Wood Poles, 05.1-1948, was developed by a sectional committee of 21 national organizations concerned with the production or use of wood poles or with the technology involved in determining their relative strength and durability.

This committee was formally organized in 1924 and has been in existence continuously ever since, working under the sponsorship of the ASA Telephone Group, i.e., the Bell System and the United States Independent Telephone Association.

The present edition, which includes the specifications and dimensions for all standard species of poles in one document, is a revision of the following: American Standard Ultimate Fiber Stresses of Wood Poles, Specifications and Dimensions for Northern White Cedar Poles, Specifications and Dimensions for Western Red Cedar Poles, Specifications and Dimensions for Chestnut Poles, Specifications and Dimensions for Southern Pine Poles, Specifications and Dimensions for Douglas Fir Poles, and American War Standard Specifications and Dimensions for Miscellaneous Conifers.

Copies of the American Standard Specifications and Dimensions for Wood Poles may be obtained from the American Standards Association, 70 E. 42nd St., New York City, for 50 cents per copy. Review copies of the standards for use in preparing editorial material will be furnished on request free of charge.

V V

Association Has Attorney

The South Dakota Telephone Association recently engaged an attorney to render service and advice to member telephone companies, according to W. A. Pirner, secretary of the association.

V V

Buys Missouri Exchange

Clyde Tucker, manager of the Pleasanton (Kan.) Telephone Co. has announced that his company has purchased the Hume, Mo., telephone exchange of the Missouri Union Telephone Co., Richards, Mo.

V V

Named to Republican Committee

John H. Agee, retired general manager of the Lincoln (Neb.) Telephone & Telegraph Co., has been named a member of the finance committee of the state Republican organization.

V V

Minnesota Independent Sold

The Minnesota Railroad & Warehouse Commission on Aug. 16 authorized the sale of the Alvarado Telephone Co. to Clarence and Bessie Thompson.

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Thus began the electrifying telegraph message from General Sheridan in flame-swept Chicago to the Secretary of War at Washington. Dispatched October 9, 1871, this was the first news of the disaster to reach the outside world. A highlight in wire communication!

Since early in the history of the telephone and telegraph, Hemingray Insulators have kept pace with the rapidly changing requirements in communication. Today, these insulators, manufactured by American Structural Products Company, are accepted as the standard for the industry.

Write for the complete historical outline of insulator development.

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American Structural Products Company

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FIRST "DIRECTOR" SYSTEM SERVES SAN FERNANDO

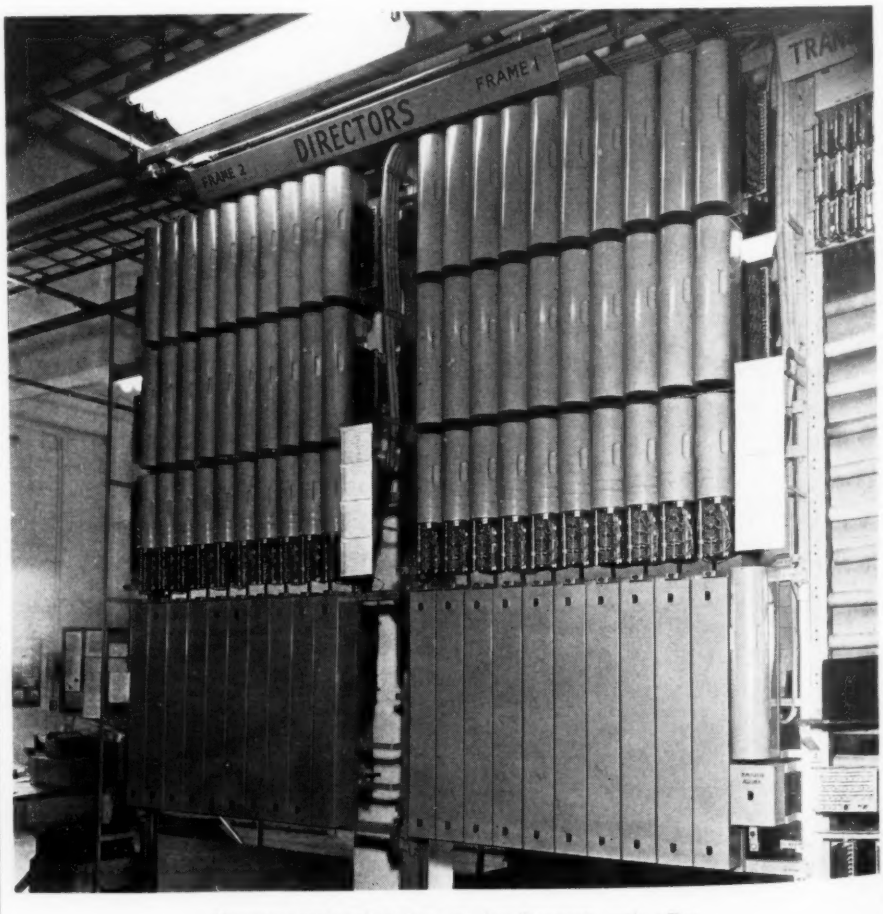
SATURDAY, July 31, marked another significant milestone in the history of Independent telephone development when the three-office San Fernando network of the California Water & Telephone Co. was converted to Strowger automatic operation. The conversion involved three offices: the San Fernando main office, with 3,200 lines, and the unattended offices at Sepulveda and Granada, with 1,000 lines and 300 lines, respectively.

Unusual interest has been shown by both Independent and Bell telephone men in this project because it makes use, for the first time in the United States, of the Strowger "Director" system, which provides facilities for digit registration and translation to meet the complex trunking conditions encountered in large city networks and metropolitan toll areas set up on a universal numbering basis.

Installation of director equipment in San Fernando comes about as a result of the comprehensive plans which are now being implemented to provide faster and more convenient service over the complex network of toll lines between various points in Southern California, and paves the way for ultimate subscriber dialing of such calls through the use of automatic toll ticketing equipment.

Among the principal moving spirits behind these plans are C. H. Loveland, president, and A. N. Johns, vice president, of the California Water & Telephone Co., whose foresight and long range study led to this first step towards the ultimate goal. Joint studies which they have conducted with other telephone companies in the Los Angeles metropolitan area led to the adoption of the present numbering plan for that area, in which each telephone office has its own two or three-figure office code designation, which also serves as the prefix of the seven-digit call number assigned to each local station.

While the installation of directors in San Fernando will not serve its full purpose until automatic ticketing is in effect, it is a necessary preliminary to that step, and will also enable the telephone company to meet in advance



Strowger "Director" bays at San Fernando main office.

MAYOR BRICE SCHURR of San Fernando making the first call while BERT PROBASCO, local manager, looks on.

certain important requirements of the ultimate metropolitan plan. One of these is the requirement for a universal call numbering scheme, by which is meant that the code number to be dialed to reach any given exchange must always be the same regardless of where the call originates. The director, often referred to as the "magic brain" of the Strowger systems, meets this condition by translating the dialed code into a "directive" which will route the connection link by link to the called exchange no matter where the call originates.

Another requirement in areas of this sort is to provide the necessary mechanical "judgment" whereby a call is prevented from being blocked by busy trunk groups at any point along the way. This, too, is a function of the director, which, whenever the preferred route is blocked, tries other available routes in succession, thus making the fullest possible use of the network trunking facilities.

A third requirement of the San Fernando exchange is the need for distinguishing between calls from "limited service" and "extended service" subscribers. Here again the director takes over, and in the event of any attempt on the part of a limited service user to make an unauthorized call to an office in another exchange area, routes the connection to an operator who can "ticket" the call in the usual manner.

The director is one of the creations of the Automatic Electric Laboratories. Though new in its application to telephone networks in this country, it has been widely and successfully used in various forms abroad. Its earliest use on a large scale was in the complex and extensive network of London, England, and it has since been used in city exchanges and toll networks in other places.

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• Ever since the first communication and power lines were strung, Klein Pliers have been the favorite tools of electrical workers.

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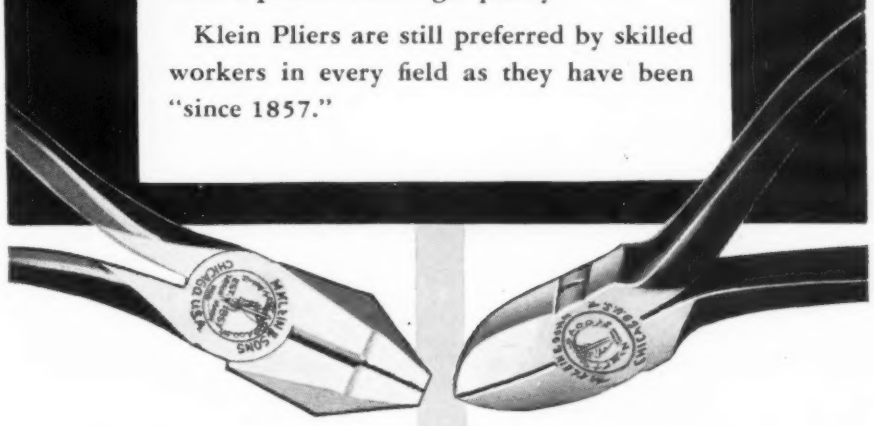
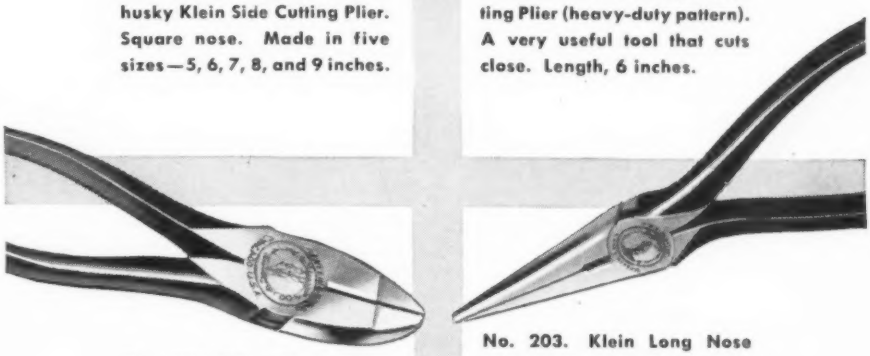
Klein Pliers are still preferred by skilled workers in every field as they have been "since 1857."



No. 201. Original pattern husky Klein Side Cutting Plier. Square nose. Made in five sizes—5, 6, 7, 8, and 9 inches.

No. 242. Klein Oblique Cutting Plier (heavy-duty pattern). A very useful tool that cuts close. Length, 6 inches.



No. 201 NE. The famous "streamlined" Klein Side Cutting Plier. Made in five sizes —5, 6, 7, 8, and 9 inches.

No. 203. Klein Long Nose Plier. Long reach of jaws permits getting into difficult places. Made in 6 and 7-inch sizes.

The Klein Pocket Tool Guide, showing the Klein line and containing useful tool information, will be mailed on request.

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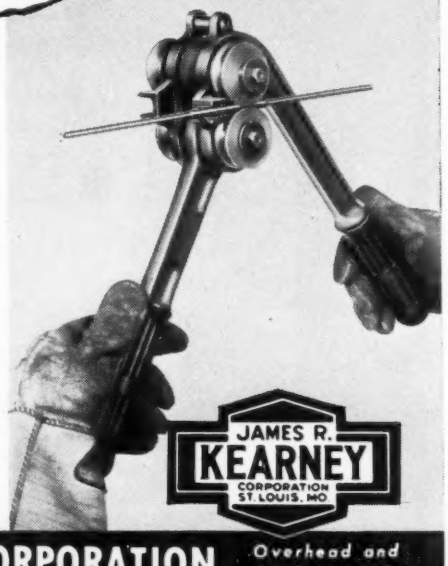

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J. E. OSTLINE, project engineer of Automatic Electric Laboratories, checking operations with the director monitor.

Because of the relative simplicity of such multi-office city networks as are operated by Independent telephone companies in the U. S., the director has so far not been needed for that purpose. However, in recent years, there has been a steadily growing interest in the director because of its adaptability to toll dialing in metropolitan-suburban areas where there is a growing concentration of traffic over networks connecting suburban exchange areas.

Many such installations, involving both director and automatic toll ticketing applications, are now in the engineering or manufacturing stage, but the California Water & Telephone Co. may justly take pride in being the first company in the United States to make commercial use of the director in anticipation of the time when subscriber toll dialing will be a widespread practice.

Dialing between the three offices in the San Fernando network is on a universal numbering, free service basis, using seven-digit call numbers, the prefixes for the three offices being EMpire 1, EMpire 2, and EMpire 3. The first three digits are received by one of the directors, and the first two digits, in the case of a local area call, are absorbed by the director, the remainder of the digits being sent on to the switch train in the usual way. Ultimately, the directors will become part of the automatic toll ticketing scheme, taking over the routing of calls when the time comes for subscribers to dial their own toll calls. For the present, all calls going out of the San Fernando network are handled at the 16-position DSA manual board in the main office which was placed in service at the same time as the automatic equipment.

A dinner preceding the cut-over was given by the California Water & Telephone Co. Guests included prominent executives from the local telephone

company and other Independent companies in the area, as well as representatives of the Pacific Telephone & Telegraph Co. Toastmaster was F. H. MacGougan, Monrovia district manager for the California Water & Telephone Co.

Talks were given by Mr. Loveland, Mr. Johns, Charles Austin, vice president of the California company, C. S. Cadwell, president of Automatic Electric Co., and J. A. Rector, of the Los Angeles office of Automatic Electric Sales Corp.

At the conclusion of the dinner, the guests were invited to inspect the new building and equipment, and the mechanics of the cut-over proceeded shortly afterwards. Mayor Brice Schurr of San Fernando made the first call over the system to the Los Angeles Fire Department.

Installation of the central office equipment, which was successfully handled by personnel of the California Water & Telephone Co., was a remarkable achievement from many standpoints. Except for Tom Walsh, the company's installation superintendent, most of the installation personnel were inexperienced; the installation schedule was very closely figured; and of course, the techniques of director installation and testing also were new. Despite these obstacles, the cut-over proceeded smoothly and the subsequent successful operation of the equipment proved gratifying both to the telephone company and to the public.

Automatic Electric Co.'s engineering organization was represented by K. W. Graybill, chief engineer, and J. E. Ostline, project engineer, who has been intimately associated with the development and application of the director service since its first use in London, where for several years he was resident engineer. The company's operating department was represented by E. L. Schwartz.

Frame of Mind

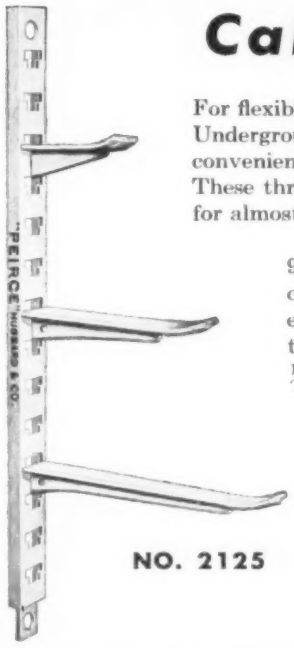
A certain woman really felt that she was still learning to drive the family car, but she had been out with it several times, and returned without mishap. On one occasion, just as she turned a street corner, a telephone lineman shinnied up a pole, and fast. "Idiot," the woman muttered to herself, "how can he tell I'm learning to drive."

—*The Furrow*

JOHN LINEMAN OFFERS..

PEIRCE

Underground Cable Racks



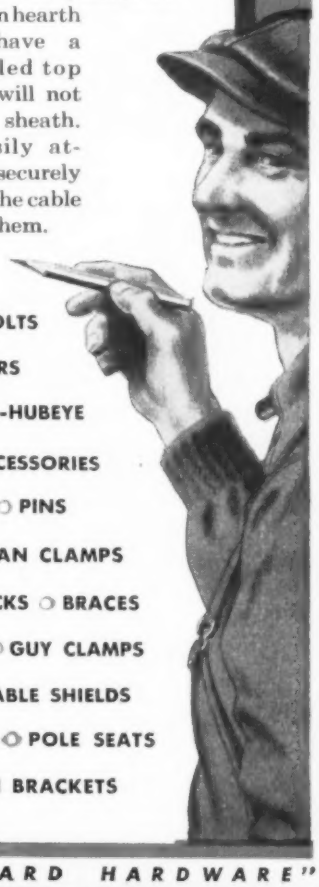
NO. 2125

For flexibility and ease of installation, Peirce Underground Cable Racks are made in three convenient lengths: 15, 24, and 30 inches. These three basic sections may be combined for almost any desired length.

Sections are made from 1½ by 9/16 by 3/16-inch open hearth steel channel and will support the heaviest cables. Racks are fastened to the manhole walls by means of a ½ by 4-inch Peirce Expansion Bolt.

Hooks adaptable for insulators and cut from open hearth "T" sections, have a smoothly rounded top surface which will not injure the cable sheath. Hooks are easily attached and lock securely when weight of the cable is placed upon them.

A. T. & T. Co. Standard



ALSO— HUBEYE NUTS ○ HUBEYE BOLTS ANCHORS, PLATE AND SCREW ○ MANHOLE LADDERS BRACKETS, POLE, CORNER AND HOUSE ○ EYE BOLTS-HUBEYE CARRIAGE BOLTS ○ CROSS ARM BOLTS ○ GUYING ACCESSORIES CABLE SUSPENSION HARDWARE ○ POLE BALCONIES ○ PINS STORM GUY ATTACHMENTS ○ SIDE-WALK GUYS ○ SPAN CLAMPS LAG SCREWS ○ MESSENGER DEAD ENDS ○ CABLE RACKS ○ BRACES DRIVE HOOKS ○ EXTENSION ARMS ○ POLE STRUTS ○ GUY CLAMPS POLE STEPS ○ STUBBING BANDS ○ STRAIN PLATES ○ CABLE SHIELDS GUY PROTECTORS ○ GUY HOOKS ○ MACHINE BOLTS ○ POLE SEATS GRADE CLAMPS ○ GROUND RODS ○ TRANSPOSITION BRACKETS

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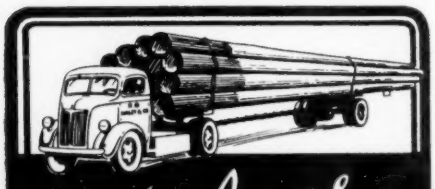

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New Malleable Expanding Anchor Announced

A new expanding type, cone-slant anchor, made of high-strength malleable iron, has been announced by the Albion Malleable Iron Co., Albion, Mich. (See cut).

The new Albion-Dillon anchor has three exceptionally long, cone-slanted blades that extend deeply into undisturbed earth to provide maximum holding power. Tests have shown that the anchor will withstand a 46,000-pound pull, the company reports.

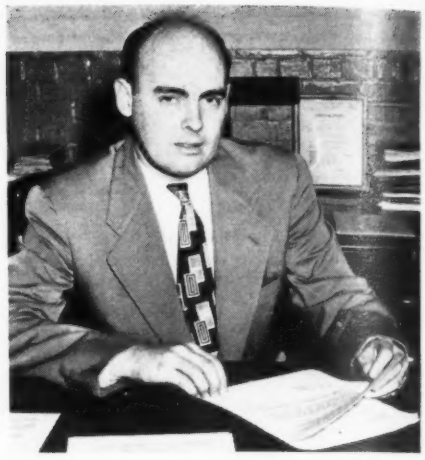
Installation of the Albion-Dillon anchor is simple and effective, it is said. A three-inch, four-inch or six-inch hole (depending on size of anchor) is dug with auger to desired depth. A strand of light wire is placed around blades to hold them in place (vertically, with blades pointing downward). The anchor, with rod attached, is then dropped to bottom of the hole. A few blows with a spud or installing tool on the large anchor top breaks the light wire and expands the blades. The blades advance outward and upward to full length in the undisturbed earth—becoming locked into position and ready for a full pull. Eighty per cent of the total anchor area is expanded in the earth, the company states.

Models in three hole sizes — three-inch, four-inch and six-inch—are now in production, with two variations of blade spread available in the six-inch size.

V V

Hart Joins Federal As Sales Engineer

Edward J. Hart has joined Federal Telephone & Radio Corp., Clifton, N. J., as sales engineer, reporting to I. W. Gleason, sales manager, telephone division.



E. J. HART

Upon relief from active duty with the Signal Corps in 1946, Mr. Hart became associated with the Stromberg Carlson Co., as sales engineer in the telephone sales division, where his activities involved selling and engineering of both manual and automatic telephone switching equipment.

After being graduated from the University of Notre Dame in 1940, where he obtained his B.S. degree in electrical engineering, Mr. Hart spent two years as a civilian engineer with the Signal Corps Procurement District, Telephone Division. He was later commissioned in the Signal Corps and for three years was assigned to the Signal Corps Inspection Agency. In this capacity Mr. Hart initially was in charge of inspectors at telephone, radio and cable plants in the Chicago area. He later became officer in charge, Technical Section, Newark Signal Corps Inspection Zone.

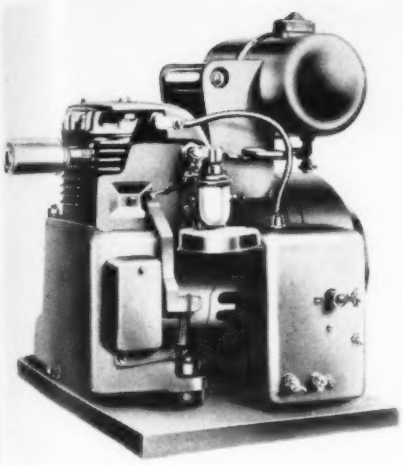
V V

Onan Develops 77-Pound Portable Electric Plant

D. W. Onan & Sons, Inc., Minneapolis, Minn., announces what it considers to be the smallest and lightest four-cycle, engine-driven, AC lighting plant ever developed. The new Onan Model AAE generates 350 watts alternating current, and is small enough (less than two cubic feet) to fit easily into the trunk compartment of an automobile. It weighs only 77 pounds (See cut).

This easy-to-carry, portable little power plant makes it possible to have an AC electric power supply practically anywhere, for any purpose.

This new series of AAE plants is available in both 115-volt AC models and in six, 12 and 32-volt DC battery chargers. Model 03AAE develops 350-watt, 115-volt AC while the battery



charging models are available in 300 and 400-watt capacities. All models have electric push-switch starting.

All the AAE models are powered by four-cycle, air-cooled Onan engines and are suitable for stationary or emergency portable service.

Accessories for all models include the following: Carrying handle, mounted two-quart fuel tank, muffler assembly, emergency starting rope, instruction manual and plywood mounting board.

V V

Miller Company Announces New Adjustable Climber

After two years of research and development, Miller Equipment Co., Inc., of Franklin, Pa., introduces a new adjustable climber. According to the company, its new climber offers the following exclusive features: (1)

U-channel shank design providing greater strength with less weight; (2) a removable gaff which can be replaced on the job by simple operation of special locking key; (3) increased foot surface for wide shoes and winter rubbers; (4) screw-fastened adjustable

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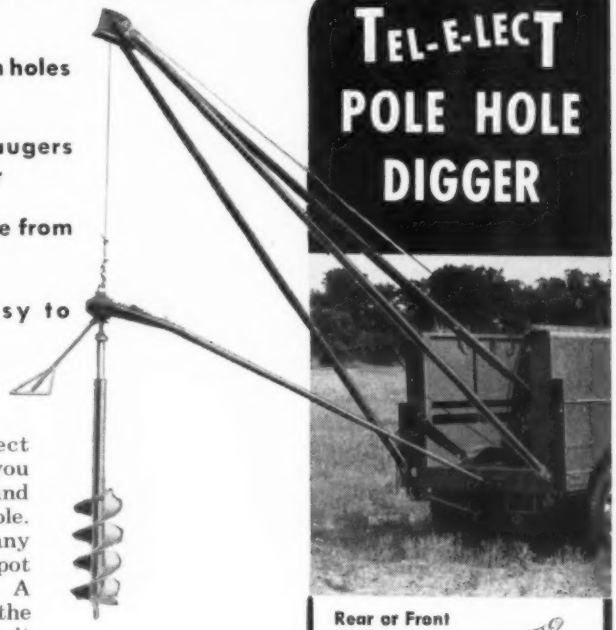

TEL-E-LECT POLE HOLE DIGGER

WITH the Tel-E-Lect Pole Hole Digger, you use the same truck and crew that sets the pole. You can drill a hole any place that you can spot the pole derrick. A single bolt attaches the digger to the truck; it works suspended from the derrick. Powered by the truck motor through a power take-off shaft, Tel-E-Lect is raised and lowered by the winch line. Fits the budget of even the smallest utility, and quickly pays for itself. *Ask for circular.*

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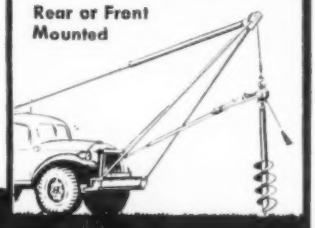

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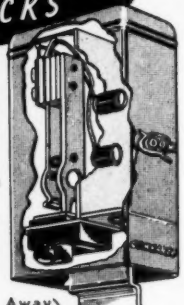

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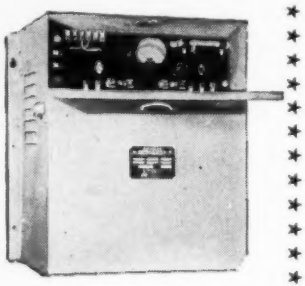

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shank allowing size ranges from 14½ to 17½ ins.

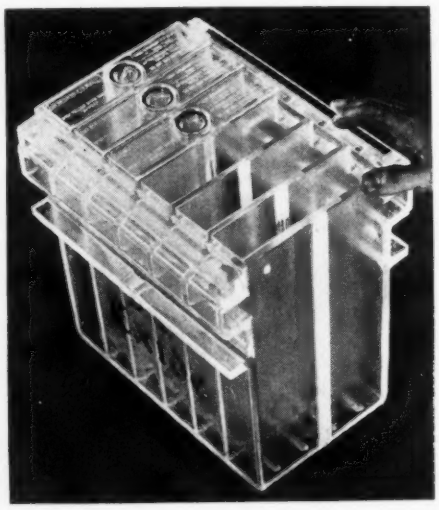
The Miller adjustable climber was designed by a leading design engineer and has been field tested, according to the company.

Literature and prices submitted upon request to the company.

V V

Exide Battery, With Plastic Case, Wins Award

The Exide storage battery, made with a plastic case, manufactured by The Electric Storage Battery Co., Philadelphia, won first award in the Industrial & Machinery Classification in the seventh Modern Plastics Competition sponsored by *Modern Plastics* magazine.



Transparent polystyrene plastic was used as the container material for the battery. The battery is rated at 24 volts, and is capable of producing 15 h.p. for three minutes. The container permits an increased ratio of power to cubic content and weight, it is said.

It has connections for venting gas automatically on charge and discharge, a "no-overflow" device to prevent overfilling, and complete filling and operating instructions which are molded into the plastic.

The materials are supplied by Dow Chemical Co., Bakelite Corp., and Monsanto Chemical Co. Molds were made by Special Machine & Tool Co., and the battery case was molded by Prolon Plastics Division of the Pro-phy-lac-tic Brush Co.

V V

>> For the fifth consecutive year, *Musical America* has selected "The Telephone Hour" as the radio program having the foremost orchestra with featured soloists. The award was based on a poll of 600 North American music editors and critics.

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